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THE LADIES' MULTUM-IN-PARVO FLOWER GARDEN

Samuel Wood

THE LADIES' MULTUM-IN-PARVO
FLOWER GARDEN.

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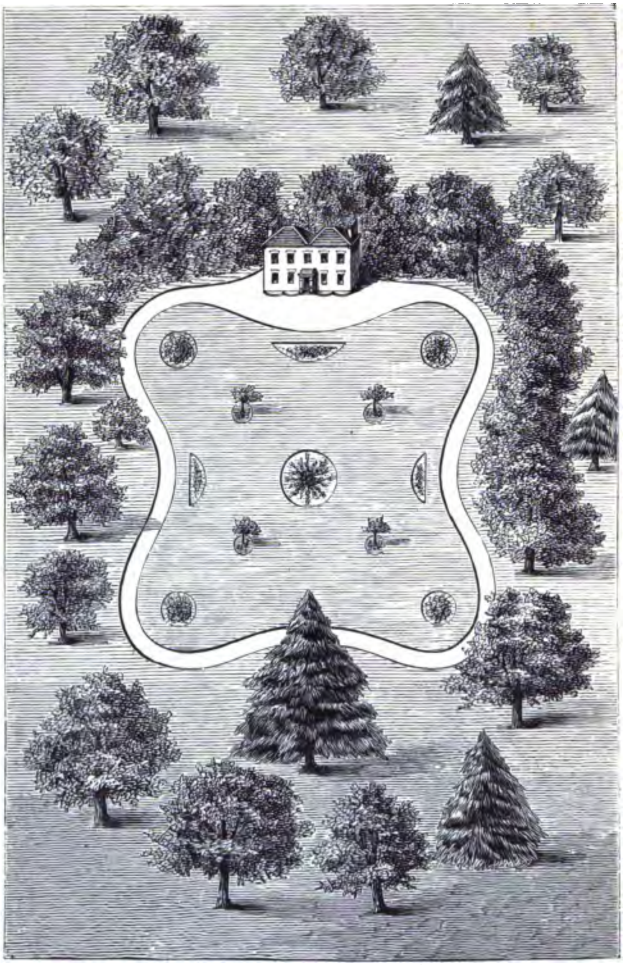

PLAN OF VILLA GARDEN.

THE LADIES' MULTUM-IN-PARVO FLOWER GARDEN

AND

AMATEUR'S COMPLETE GUIDE;

SHOWING WHAT TO DO TO GET THE MOST
ENJOYMENT OUT OF A SMALL PARTERRE AT THE LEAST EXPENSE, WITH
INSTRUCTIONS HOW TO FORM AND PLANT
THE MINIATURE ROSARY AND THE COMPOUND CARPET GARDEN
ALSO HOW TO MAKE
THE LADIES' MINIATURE NURSERY GROUND
AND THE FERNERY;
HOW TO RAISE SEEDLINGS;
WITH A LIST OF THE MOST TROUBLESOME INSECTS AND HOW TO DESTROY THEM,
ETC.

With Illustrations.

BY SAMUEL WOOD,

AUTHOR OF 'GOOD GARDENING,' 'THE FRUIT TREE AND SHRUB PRUNER,'
'THE PLANT PROPAGATOR AND TREE PLANTER,' ETC.

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PREFACE.

How the various tastes for flower gardening may be gratified and perfectly satisfied, and at a smaller outlay than is generally supposed, is shown in the following pages. I have endeavoured to meet the wishes of a numerous class of lovers of flowers who have gardens miserably deficient of modern ornaments because many of them on counting the cost find it beyond their means. In these few pages I have shown that where there is a will there is a way, and that the cost of having a good and gay garden is merely nominal.

I strongly recommend those amateurs who wish to be successful in their own gardens to adopt the idea of the 'Ladies' Own Miniature Nursery,' a small section to be exclusively set apart for nursing their pets before they are ventured into the open borders or beds. Without some such plan it is all but impossible to get anything of much value in some seasons, in consequence of the unprotected state of the small seedlings from slugs and various insects and from the influences of the weather. If a nursery is needful for the class of growers in whose grounds soil and situation are at command, and other things can be made agreeable to the requirements of the various classes of plants, surely it is so in the case of those of more limited means and space, who are not able to devote their whole time, as do gardeners, to looking after those enemies which often destroy the young plants before, in fact, they can well be called so. These views are in accordance with those set forth in regard to the various classes of glass constructed and advertised for the use of ladies at home.

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THE LADIES' MULTUM-IN-PARVO FLOWER GARDEN.

PART I.

CONSTRUCTION OF THE GARDEN.

INTRODUCTORY REMARKS.

It is an acknowledged fact that a small spot as a garden may by good judgment and the proper application of ordinary means be made as interesting and beautiful as a large one, and I have proved this. I remember that about thirty years ago a gentleman whom I knew well, who had a large and beautiful place, and kept a set of gardeners, one day came into my small nursery, cast his eyes round, and said, 'And are all these (meaning plants) yours? and did you grow them all here?' And I well remember some others disputing as to whether all they saw could be grown on the spot where they were, while some even said 'they were brought there.' It is true the seed or cuttings were brought there, but they as plants were grown there. Well, I don't think it was much to wonder at after all, but it proves that much may be contained in a little place.

I always seemed to have something of a natural propensity, I think, for 'multum-in-parvo' practice as far as I can see now, and I am fully convinced that it is the best; for, first, it suits the majority of gardeners, whether they are professionals or amateurs, for one person can then manage as much as two on an increased scale, and so on in proportion. Even now one can go into any locality abounding more or less in what may be called second-rate gardens, and not find ten out of one hundred 'multum-in-parvo gardens;' yea, I will go a little further than that, and say you cannot find many gardens above half done, nor made to answer the end for which they are capable. There are various reasons for this. I was once told by the persons on a gentleman's place when I was appointed his gardener, that he (the gentleman) did not care about a display of flowers; all he wanted, said they, was 'a Cauliflower.' But I was a lover of flowers, and so I am now, and I took no notice of what was said, but proceeded, as was my wont, with the getting up of stock for a full display of flowers both indoors and out, and ultimately I found that the gentleman manifested aloud his approbation of my success, by saying, 'Ah, some people understand farming, but you understand gardening.' This was more than I could have expected, but it stimulated me, and proves that there is without doubt in all men and women an innate love for nature's beauties, which only requires moving into action by showing them living facts in the display of her pets. I merely name these things to show how much depends upon the energetic action of one single individual. 'Pleasure,' said a gentleman to me one day, 'we must have, and it is as well to pay a hundred a year for a good garden as for anything else.' 'Yes,' said I, or thought so, ‘and better.’ This was natural to me, for I never could see anything to compare with a good garden; and I can vouch even now, with all the resources of pleasure, that there is nothing under the sun capable of affording so much solid satisfaction as a good garden.

It is quite astonishing what an amount of interest may be derived from a very small spot. I have known persons possessing mansions where large grounds, &c., adorned the place, and who have kept a set of gardeners, admire a small garden that could be put into a corner of their grounds, and then scarcely be found; and now I can point to places that were worth nothing, and thought to be past all gardening purposes, that are now the admiration of not a few. I know full well that all depends upon the perseverance of the person, and I am fully convinced that no young man can have an hour to spare for any other kind of pleasure if he wishes to excel, nor does he want it, as a gardener; for if our pleasures are ideal, then in gardening we have solid fancy, *i.e.* imagination combined with material fact, and not the fairy fancy alone.

CHAPTER I.

THE SITUATION AND SHAPE OF THE GARDEN.

THE situation of the flower garden is really of but comparatively small account, since there are plants suited to all kinds of aspects. The difference of aspect has chiefly to do with early and late flowering. In some localities a late aspect is even best. In others early ones are best, but as a rule warm southerly aspects destroy the beauty of the flowers sooner than westerly and northerly ones. Generally we like early aspects for early flowers, which are more valuable on that account, but in most gardens there are both early and late aspects, and no matter which it is, all may be made beautiful.

It generally happens, and cannot be avoided in the locality of towns, that villas large and small are situated so as to overlook each other, and as a rule this is not pleasant to either party, so that every device is sought for to prevent it, and mostly trees are planted which ultimately prove injurious to the grounds, and eat out all the virtue from the land, so that little or nothing else can be grown under or near them; and all this occurs for want of judgment in selecting and planting at the commencement. Now where dwellings of this sort are so placed, and where the space is limited, a judicious selection of suitable trees should be made, and I know of none better suited for this class of planting than the Lime tree, the Acacia-Robinia kept cut in, the Ilex Oak, Cupressus macrocarpa and sempervirens, Red Cedar, and American Arbor-vitæ, and Bays. The Lime and Acacia may be cut in annually to any extent, and they will grow close by this means, but they are deciduous.

The Ilex Oak is of an evergreen habit, and remarkably well adapted for planting in places where a blind is necessary, and not merely an overgrowth wanted. This plant will grow fast, and may be cut in annually, when it will get very thick, and form a most effectual blind, without imposing upon the grounds near to it. The Arbor-vitæ may be planted three feet asunder, and will then soon form a complete blind. Evergreen Climbing Roses make a beautiful and good blind of the most ornamental description. These may be grown on stout wire fences, or framework made of rough (peeled) oak wood, not split, but the tops peeled and used round; but of the two I prefer coarse strong wire netting, which, if secured to stout oak or larch posts well let into the ground, will last a lifetime. These evergreen Climbing Roses form beautiful subjects for screen fences as blinds, and will do this completely within three years from the planting. They will then last for a lifetime, and may be trained as thick as you please, and to any height under twenty feet; nor will they require much attention for this purpose beyond tying in as the growth is made, and perhaps a little spurring-in once a year. Adelaide d'Orléans is a most beautiful variety for this purpose, being of a light rose colour; Donna Maria is another beautiful variety, with pure white double flowers; Félicité perpétué is another much like the last, a most abundant flowerer and a fast grower. Myrianthus is another lovely variety. There are also a great many more of this class, which may be selected from the various catalogues, that will do as well for this purpose. There is no doubt that these fast Climbing Roses form the very best of screens as blinds in small villa grounds where the space is limited, as they will soon accomplish the object in view, and not impose upon the ground where flower roots may be planted.

By judicious management in the first instance, and by filling the ground below with suitable plants, a considerably larger amount of satisfaction may be derived from a given space than is generally obtained. There are many very poor spots that might be made a little paradise in this way. The expense is not half what is generally anticipated, and I will show ladies in this work how to go about the ornamentation of their gardens economically.

THE GRASS LAWN.

Generally there is space enough for a lawn, either small or great, and it is a great set-off to a house and to everything else, whether consisting of shrubs or flowers. Now a really good grass lawn is, I must say, a very uncommon thing with villa establishments. The best I ever saw was one managed by the owner himself, who was a minister. This gentleman mowed the lawn himself with a scythe, and it would be a most difficult thing to search the whole of England over to find one to excel it either in beauty or purity, or one with a more perfect surface.

There have been numerous treatises written on the making of lawns, but there is only one way to do it properly. To attempt to get a really good lawn like the one I have just described can never be accomplished by sowing seeds on the place intended for it; at least I never saw one yet, nor do I ever expect to see such a thing. I know that there are some objections to my way of making a lawn, and there are moreover some things much in favour of sowing seed for it. First, the additional trouble and expense in getting and laying the turf, and the ease with which a pretended lawn may be made by sowing seed, and the small expense attached to it. But if every item connected with getting a really good sward for a lawn is taken into consideration, it will be found that it will cost ten times as much as it does to make one by laying good turf; and besides by this course a perfect lawn may be obtained in twenty times less time than it can possibly be had by sowing the seed, however well it may be done. So much for the making of a lawn.

Now the way to manage it is a thing of much more importance than is generally supposed. First of all, to obtain a perfectly even and smooth surface, beating and heavy rolling in wet weather are absolutely necessary. If a lawn is not as smooth as a drawing-room carpet, it must be made so by heavy beating and rolling through the winter. After a hard frost, and when a thaw has set in, is the time to beat and roll it if it has an uneven surface. The next thing is to eradicate all weeds, leaving nothing but fine grass. It will be found that lawns that are made by sowing seed are, as a rule, always troubled more or less with coarse grasses and various weeds: these must be got out by hand-weeding.

Having obtained a good even surface, the next thing is the mowing of the lawn. Ladies can do this now with the small machines, but whoever does it let me caution them against cutting the grass too close to the ground. Where this is done, you never see a good carpet-like sward, and after the continuance of dry weather for a week or two, the surface being too bare, the roots of the grass are exposed to the sun's influence, and the bald places soon get brown. A full half-inch of the grass should be left on the surface; the machine should not be set to cut closer than that, let the lawn or the weather be what it may; but seeded lawns suffer the most from drought when cut too close. Every time a lawn is mown it should be also rolled before the mowing, as well as afterwards.

THE BEST KINDS OF SHRUBS.

Good selections of shrubs for small villa gardens are rarely made. The truth is that the builders mostly apportion and plant the grounds, and not many of them know much about gardening; and if they do, they do not think it worth their while to go to the expense of providing anything choice, so as a rule they plant what is the least expensive. It is true that any kind of shrub looks well while it is young and healthy, but planters of villa gardens should look forward twenty years, and imagine how such and such common shrubs will then look.

No doubt it is necessary to have something for a background to a shrub border, and I admit the common Laurel makes a good one; but for beauty there is nothing comparable to the Bay and Laurustine. These are not such gross feeders as the common Laurel, and are very beautiful, especially the latter.

Now suppose the pleasure ground is surrounded by a wall or close fence of wood, or even an open fence, Roses should be planted (Climbing Roses I mean) on the fence or wall first, and then the Laurustine at intervals of ten or twelve feet, three feet distant from the fence. Here is a most ornamental background for any first-class parterre, and ultimately these Roses and projecting Laurustines will form what may be called a natural effect in miniature landscape gardening. These Roses neatly trained upon the fence, and the Laurustines merely cut in once a year after the flowering, to keep them symmetrical and appropriate subjects, will form no mean objects in any place. Supposing there is a border (which there may be or not), then there will be recesses formed by the projecting Laurustines which will form excellent reserves for clumps of choice flowering plants, and here they will make a beautiful contrast to the background, and will be well protected from boisterous winds, and also from too much sun, which generally soon destroys flowers.

This kind of boundary ornament to the parterre will doubtless be a more natural one than such as we generally find in small villa grounds. The interval breaks may be of any kind of good ornamental shrubs besides the Laurustine, such as Hemlock Spruce, Juniperus pendula, Berberis Darwinii, or Syringa; but as a rule few things will match the Laurustine for beauty and appropriateness in all respects. When the Roses are once planted at intervals of nine or ten feet, these will not require to be done again, and the recesses may for economy's sake be planted with permanent plants, such as choice Carnations, Pinks, Cloves, Phloxes, Pentstemons, Antirrhinums, Irises, Single Scarlet Anemone, Squills, Tulips, Gladiolus, &c. All of these are hardy and permanent, and will rarely require replacing if properly managed. (See 'Management of Perennial Plants.') If the recesses are once fairly planted with such hardy classes of plants, they will continue for many successive years. Again, dwarf flowering shrubs may be planted to fill up these recesses, such as Azaleas, Daphnes, Dwarf Roses, and other various flowering shrubs of a dwarf habit; whilst those who like change and variety, combined with a small expense, may sow annuals. And here I would recommend such as Ten-week Stocks, Saponaria, Phlox Drummondi, Asters, Mignonette, Campanula pentagonia, Scarlet Linum, Larkspur, Godetia, Limnanthes Douglasii, Prince's Feather, Schizanthus of various sorts, Oxyura chrysanthemoides, Calliopsis Drummondi and Coronata, and Dwarf Minor Convolvulus. These are all good and free-flowering annuals of a protracted flowering character, and may be sown where they are to flower, with the exception of the Phlox Drummondi, which should be sown first in a pot or seed-pan, raised in the frame or greenhouse, and then planted out in May. All the rest may be sown in March, after making the surface of the soil quite fine. (See 'List of Annuals and How to Sow Them.')

CHAPTER II.

THE MOST BEAUTIFUL FLOWERING SHRUBS FOR A SMALL GARDEN, AND HOW TO GROW THEM.

GENERALLY the chief inquiry is, 'What kind of pretty shrub can I plant in such and such a place?' I want something good and not too dear. These are generally the first notes on entering a nursery. Well, I here beg to recommend what is good. First, there are the Rhododendrons, Azaleas, Kalmias, Daphnes, Andromedas, Berberis, Weigelas, Deutzias, Spiræas, Coronilla Emerus, Thea viridis, Ceanothus intermedius, C. fontanesiana, Hugelia, and C. divaricatus, Fabiana imbricata, and the Escallonia macrantha; besides several Heaths. These are all hardy, of moderate growth, free to flower and easy to grow, being the only suitable flowering classes fit for small villa gardens, except the Fuchsia and some of the Veronicas and Roses.

These may be grown either in beds separately, or in groups of from three to six. In growing them as a selection some judgment is required in selecting them and also in planting them. If a bed is to be planted with the Rhododendron, the Azalea, the Kalmia, the Andromeda, the Daphne, and the Heath (all of which require peat soil), place the Rhododendrons in the centre of the bed, then the others in the following order—the Azalea, the Kalmia, the Daphne, the Andromeda, and last of all the Heaths. The bed should be large enough to allow of one foot six inches or two feet clear between them when planted as plants one foot high, *i.e.* for the first four, and the Andromeda and the Heaths one foot apart: then between these, all over the bed, may be planted in the centre of it a few Lilium longifolium, and towards the front one root of Lilium Thunbergianum aureum nigro-maculatum, one of the dwarfest Lilies extant, having a very large flower. This plant does not grow above six to nine inches high, and is of a golden yellow colour with black spots, being quite a remarkable sort. It will do well among the Daphnes and Andromedas, and for the front row of all plant one of the Fritillaria meleagris between each Heath. These are a beautiful and singular class of dwarf lily-like flowers, of various colours, and two or three of the small bulbs may be planted between each plant of Heath, or six Crocuses or six Snowdrops in round clumps.

Here then we have a bed of almost constant beauty. The Lilies will show themselves above the shrubs and give a most lively feature to the evergreens. The subsoil of the bed must be well secured from stagnant water; and it is easily done, if there is any danger of this, by digging out the bed two feet deep, and putting at the bottom a good layer of coarse broken brick and split logs, and in these some coarse peat just as it is dug from the common. Then fill the bed up with finer peat, leaf-mould, and sand, or maiden loam and peat, with some sand (pit sand, not sea sand). The planting should either be done in October or deferred until April.

Standard Rhododendrons may be planted on lawns as single objects with two feet and a half clean stems in a circle bed of three feet in diameter, filled with good peat soil, and under the Rhododendron three plants of Azalea or Andromeda; and then between each of these three plants a clump of Erica herbacea or Genista tinctoria flore pleno. Perhaps the Genista kept trimmed would be the best, as it continues flowering a long time, is remarkably showy with its bright yellow flowers, and is quite hardy. By such an arrangement we have a permanent 'Multum-in-parvo' clump of good flowering handsome shrubs. The Rhododendron should be of the handsome Catawbiense varieties, and out of this class choose any colour most desirable; for here any colour may be selected, from pure white to dark purple, nor can anything be more exquisitely grand or beautiful. The Azaleas may be selected in the same manner of choice colours from white to deep red, and nothing can well excel in beauty the varieties of these Azaleas; while for those who delight in splendour of colour combined with great variety, nothing among flowering shrubs can really equal such a bed as this.

And here I propose on the well-kept lawn a bed six feet in diameter for a small parterre, and one of ten feet in diameter for a medium sized one, and one of twelve or fifteen feet in diameter for a large pleasure ground, filled entirely with good varieties of these Azaleas grown in peat, with a front row of Hepatica, six inches from the grass edge, and the bed planted over between the Azaleas with Lilium lancifolium rubrum punctatum or L. longiflorum. These Lilies will flower when the Azaleas are only green, forming a magnificent object. Moreover, they will not injure the

Azaleas, nor will the Azaleas injure them. Thus we have again another 'Multum-in-parvo' arrangement, that will be but one expense, and that not beyond the means of all who have a villa garden, either of great or small dimensions.

Good plants of these Azaleas may now be had for one shilling each, the Lilies for sixpence each, and the Hepaticas for six shillings per dozen. These should all be planted in October, and not later, for the Lilies and Hepaticas; but the Azaleas must be in first. Plant the Azaleas two feet asunder every way, and a few inches deeper than they were originally; make the soil firm about the root, and then insert one Lily bulb exactly midway between them. Let in the bulb fully six inches deep clear from the surface into the soil with a garden trowel, and cover the root carefully with some good leaf-mould, sand, and peat, allowing the soil to rise three or four inches above the level of the bed in the shape of a cone. I think this quite necessary in planting these Lilies out of doors at this time of the year, to keep all superfluous water from them, on account of the probability of heavy rains. Before the spring comes these hillocks, by one means and another, will have become level with the bed. If severe frosts should set in, lay a forkful of long stable manure over the roots of the Lilies.

For those who prefer a garden of choice flowering shrubs, I now proceed to recommend the planting of small or large beds, according to the size of the place, consisting of another group of Daphnes. Some will not like these, on account of the strong scent of the flower, but as a rule they are favourites. As a selection, they form a very interesting bed, as well as a useful one for cut flowers. One of D. Cneorum, one of Pontica, one of Neapolitana, one of Collina, one of Aucklandi, one of Mezereum, and one each of Gnidium, Oleoides, Autumnale, and Grandiflora, one of D. Blagana, a very fine variety, and one of D. variegata. These will form a beautiful and choice group: they must be planted in peat and maiden loam of equal parts.

CHAPTER III.

THE MINIATURE ROSARY.

To those ladies who have a particular fancy for a collection of Roses, complete on a small scale, I recommend to plant dwarf ones from the various classes in distinct sectional beds. They will then have variety of character and colour, and seldom be disappointed; nor will it be necessary to buy fresh ones every year or two, as is generally the case when a few isolated standards are distributed over the place in the general borders, where other shrubs eat out all the virtue and moisture from the ground which the Roses require, and which not being able to obtain, they soon fail. The general method of growing Roses with the majority of amateurs seldom proves satisfactory, for they are frequently planted in borders where a variety of other plants and shrubs are grown, without much or any extra painstaking to suit the condition of the soil to the requirements of the Rose. The consequence is that after two or three seasons they begin to fail, and often die altogether, and then more have to be bought, and so the thing goes on perpetually.

Now, I want to show how this is to be avoided with most Rose fanciers, and how to obtain the greatest advantage from a given space as regards Roses. Some soils are best suited for growing them on their own roots, while others suit the Dog Rose the best. But, upon the whole, Roses that are worked on the Manetti stock suit most soils well—I refer now to the dwarf kinds which are the best for small gardens. The reason is that in special beds they are the most suitable, no doubt, for those who do not know much about them, and if they do know all about the cultivation of them, they have not, perhaps, the necessary means at their command for growing really good standard Roses, such as a good and kind-natured soil, good situation, manure, &c.

Dwarf Roses then are the best adapted for small villa gardens, and these should be grown in detached beds, on the flat or on a very slight incline, but never on banks, except the climbing varieties, which are hardy, and may be grown with advantage in that way if the soil is good; but the Perpetual Roses must be planted on good deep moist soil, or a failure is sure ultimately to ensue. I advise by all means to plant them in beds of six, nine, twelve, or more, according to the size of the bed, and this should be regulated by the dimensions of the place. To hold six Roses a bed should be six feet in diameter, and for nine Roses of a free growth it should be not less than eight feet in diameter. Now to some these sizes will appear much too large, but they will be full small enough on my method of cultivation. Let the bed be dug deep and well prepared previous to planting, by adding to the original soil (unless it is good and new) six inches of maiden soil—the top spit from a common or meadow—and six inches of decomposed stable manure. Dig all in and well mix the whole: let this be done in the month of October, and at the end of the month, or in the beginning of November, plant the Roses, but not later if at all possible to avoid it. Plant them well, first trimming off all the broken and lacerated roots by cutting them to a sound part. Then make a hole with a small spade large enough to take the longest roots without turning up, insert each plant in its respective place a few inches deeper than it was in the ground before, and put a spadeful of maiden loam on the roots, then fill up, fixing the plants firmly by placing the foot on the roots.

If the growth is long from the last season, cut a foot off each shoot at the time of planting, to keep them from rocking to and fro by the winds, but leave the final pruning till March, when they may be cut back to within a few inches of the base of each shoot. These Roses will break strong the following summer, and give some vigorous and long growth, when each of the strong shoots should be pegged down over the bed and so arranged as to cover the surface. They may remain as permanent bases from year to year, from which will break, at every bud, a lateral bearing one Rose or more. When these have done flowering they may be cut back to one or two buds, and then they will give one or two more from the same spur. (See 'The Pruner,' by S. Wood.) Here then you will have a 'Multum-in-parvo' Rose-bed that will last for many years if annually top-dressed with good decomposed manure and well pruned.

These dwarf Roses are supposed to be worked close to or under the ground, and not upon stems above the ground, for this plan would not answer the same purpose. Care should be taken to select all of the same disposition as regards growth, otherwise the free growers will overgrow the weak ones, or at least there will be an unequal growth, and a consequent deficiency in the bed. Roses of the different classes should be reared in separate beds: for instance, the Hybrid Perpetuals should be by themselves, and the Teas by themselves; the Hybrid Chinas and Gallicas each by themselves; the Bourbon and Macartney Roses by themselves; and the Scotch Roses also in a bed by themselves. All these possess some peculiar feature of their own which would be partially lost if grown as a selection of the various classes; and for those who are desirous for a Rose garden on a small scale, I recommend a bed of six selected from each section, well planted, and nothing would prove more satisfactory, I am fully convinced.

THE DESCRIPTIVE MINIATURE ROSARY.

The character and diversity found in the various tribes of Roses are no doubt a good guarantee that they are of themselves sufficient for the parterre without any addition from the other classes of plants, for those who can be satisfied with them, and for those ladies who want much for a little outlay; but a good selection must be made from the various classes of dwarf Roses, and planted in small beds of well-prepared soil.

I know that just now Tea-scented and Hybrid Perpetual Roses are nearly all that are thought of by Rose growers; yet I would ask—beautiful, delicious and grand as these are—where among them can be found that exquisite and curious shape and decidedly rich tricolour found in the family of the Gallicas and Provence Roses? Of these, what among Roses or any other class of plants can compare with the Crested Moss or Provence, the new Village Maid, and Œillet Parfait, striped like a Carnation? Then there are the Mosses and the grand Hybrid Chinas, of which Coupe d'Hébé may be taken as a type of a perfect specimen; nor can one of any class match this Rose. Again, there are the Damask Roses, Rosa Alba, the Scotch Roses, &c. We have in all, at the least, ten classes of Summer Roses, and nine classes of the Autumn kinds that will do for bedding. Thus we have distinction of colour, character, and variety, sufficient to form a complete Multum-in-parvo miniature rosary.

Six dwarf plants of a class well selected; and six varieties from each of the following classes, each set in a five feet diameter round bed:—

Gallicas
Provence
Moss
Hybrid Provence
Hybrid China
White
Damask
Scotch
Austrian Yellow
Rosa Sulphurea
Tea-scented
Hybrid Perpetual
Bourbon
China
Macartney

Using Berberidifolia for the outside row, and Maria Leonida for the centre, which will make a very handsome and uncommon bed, having a white middle and a yellow border.

By this arrangement we have a diversity of colour and character and adaptation not frequently to be met with, for less trouble and expense than can be had in any other way. And although I do not like boasting about this method of gardening, I feel that I could make such a garden with these ninety-six varieties as would throw a great deal of our fanciful modern gardening into the shade, and with much less expense too; and instead of having to replenish the beds every year, these Roses will by good management improve as they get older. This good management consists in judiciously pruning and manuring them annually. Now here we have less than one hundred selected dwarf Roses planted in separate beds of as distinct colours as possible, and all of which may be contained within a very small compass. These beds should be far enough apart on the lawn to allow of a full dressed lady, or even two, walking between them comfortably.

This rosary, although small, will keep up a flowering reputation for the greater part of the year which will surpass most of our general villa gardening as regards both bedding and foliage plants, which, to say the most of, are unsuitable in nine cases out of ten. Not that I am prejudiced against these, but it is not at all convenient for many persons to grow them; and to buy them every season causes a small garden to become troublesome in some cases. Moreover the owners do not feel so much pleasure in what costs more than they feel justified in spending annually. I find that not many will care to furnish their little gardens far enough to compete with the present advanced state of floral gardening, because, say they, 'it costs so much every year.' Well, on this plan we may have quite a 'Multum-in-parvo flower garden' at a low rate, with no further expense for plants afterwards.

If the place is large enough to allow of a five feet bed of each of the classes of Roses here described, and it is well arranged, as indicated by the plan (see frontispiece), so that a space of ten feet can be allowed from bed to bed every way—then an increase of variety may be introduced on a scale proportionate to the capacity of the place, by making a three feet diameter bed between each Rose bed, to be filled with common bedding plants according to choice, which of course will much enhance the beauty of the parterre; and the more so if these small beds are filled with early bulbs, such as Crocuses, Snowdrops, early Tulips, Anemones, &c. They may likewise be sown in October with hardy annuals, such as Nemophila insignis, the Virginian Stock, Collinsia bicolor, Candytuft, &c.; or if these intermediate beds, as I call them, are planted out with permanent summer Violas, blue, white, yellow and single scarlet Anemones, Myosotis dissitiflora, Campanula garganica, Phlox verna, Gentiana acaulis, Echeveria glauca, choice Pansies, Auriculas, choice Pinks, Carnations and Picotees, Saxifraga granulata, with an edging of red double Daisies, &c., no further trouble or expense will be incurred; and these being all dwarf plants, free of flower and quite hardy, the value of this small garden will be still further enhanced, for it will contain a choice and beautiful variety, flowering from February or March, according to the season and locality, until October.

It is not so much expense to form and to plant a small garden such as I have just described, as may be supposed. I will now endeavour to show the cost of planting such a garden. First, there are the Roses: say 100 dwarf plants at 1*s.* each, 5*l.* The preparation and making the beds and soil fit for them: two loads of thoroughly decomposed manure at 6*s.* per load, 12*s.* One man, two days' work planting the Roses, at 3*s.* 6*d.* per day, 7*s.*; and, say, sixteen beds three feet diameter —round beds are the best—containing each—

	s.	*d.*
24 Violas, at 3*s.* per doz.	6	0
24 Scarlet Anemones, at 2*s.*	4	0
24 Myosotis dissitiflora	6	0
18 Campanula garganica, or carpatica, or C. subulata, at 3*s.* per doz.	4	6

	s.	*d.*
18 Phlox verna (a dwarf procumbent variety, a very pretty rose-coloured flower)	6	0
30 Gentiana acaulis (well known)	7	0
30 Echeveria glauca	5	0
18 Choice named Pansies	9	0
24 Alpine Auriculas	12	0
12 Named Pinks	6	0
36 Saxifraga granulata (a most superb double-white Stock-like flower, dwarf)	4	0
36 Double red, white, or mixed coloured Daisies, at 2*s.* 6*d.* per doz.	7	6

The above may be considered a fair estimate as to the number of plants required for each bed, and also for the cost of them as good flowering plants. But I should caution the reader against sending to strangers for them—persons who advertise these perennial plants by the hundred thousand and million. I well remember once in my life listening to one of those great men, who said he had 'a hundred thousand herbaceous plants for sale,' and that he should sell them in the spring. He invited me to see them (this was in the autumn). I went, and more disgusted no one could well be, for I would not have given him 10*l.* for the whole of his stock. I therefore caution the reader against being misled by such advertising boasters of their hundred thousands at such a cheap rate. As a rule they look much better in print than in the ground.

THE CULTIVATION OF THE PLANTS.

Generally, the best time for planting hardy perennials is from February till April, but some may be planted in September. In some of the mild counties this might be the best for the Pink, Carnation, Gentiana, Anemone and the Myosotis; but in the cold counties March may be considered as good a time as any.

Some little variation of soil is necessary for the different species. If the original soil is of a good nature, such as tender and light, little more will be required for any of the above named; but if it is not of a nice open texture, and contains no sand, care must be taken to add such compounds as are necessary to ensure success for each subject. Old decayed manure, or horse droppings swept up from the road with the sand in them, will be found an excellent compound for Violas and Pansies; also for the Gentiana, with the addition of one-third decayed leaf-mould. Half a barrowful of good leaf-mould with half a bushel of sand added, should be put to the bed for the Saxifrage, and be well mixed with the soil in the bed.

A similar soil will do for the Echeveria and the Auricula, taking care that each of these two beds are well drained, and raised considerably above the level. The Pink, Myosotis, and Phlox will do well in good ordinary soil with some good manure added to it. The Anemone should be planted in soil composed of a little decomposed manure and maiden loam well mixed in the bed. The Campanula and Daisy may be planted in good ordinary soil, if moderately light, or made so by the addition of the horse droppings from the roads, or some decomposed manure.

Prepare the beds and have them all ready a few days previous to the getting of the plants, and then insert them speedily with the garden trowel, watering them if the weather is dry. The Saxifrage ought to be carefully planted in the autumn, as it should get established before the winter. It merely requires to be dibbed in an inch under the surface; but if planted in the spring when it has made some top, the pieces should be let into the surface with a trowel. The Gentiana prefers a slight shade, and may be utilised as an edging for the Rose beds, and also for the edgings of the Azalea and Rhododendron beds. So much for 'the Miniature Rosary,' and the small intermediate beds. Now I will change the scene and introduce what may perhaps be considered a more desirable thing by some whose taste may be for grandeur and beauty of a Multum-in-parvo kind.

CHAPTER IV.

THE GARDEN OF HARDY PERENNIALS.

By going the best way to work, I find that the beautiful Miniature Rosary and the small beds between the Rose beds filled with dwarf plants as previously described, may be obtained for about 10*l.*, and that it will last for many years. But as some persons will look at this as rather a large sum to lay out for a small garden, I will now show how a good and pretty flower garden may be made for much less.

Supposing the garden, or ground designed for a parterre, contains about the same dimensions by the square perch or pole as that required for 'the Miniature Rosary,' and that as many beds of the same dimensions are made, which are not at all too large if the plants are to do well and have a really good effect even on a small scale.

A five feet diameter bed may appear large at first thought, but on striking a circle of five feet diameter on the ground it will appear full small enough; and when that flat circle is filled up and raised a little convex on the surface, it will not perhaps appear large enough; and when it is filled with plants it may then seem to the eye too small. Five feet diameter round beds are by far the best and most effective for anything except for very dwarf plants. These plain circular beds become very ornamental on a lawn when well arranged, and are more appropriate than such whimsical arrangements we often see in the journals.

I admit that I have in my 'Good Gardening' given plans of numerous fanciful designs for flower beds, but these were given principally to show that any design can be made by one simple rule by any person. But for real practical purposes I advocate the use of the circular bed so arranged as a group that a picturesque effect is realised. Circular beds then being used for this as well as for the Miniature Rosary, I now propose to fill them with none but the choicest hardy perennial plants as permanent ornaments.

Generally (I may say always) among small villa and first class cottage gardeners, good old and new perennial plants are wholly or partially neglected, just as our good old Auricula was for years. I am now professing to write for a Multum-in-parvo flower garden; but it will be reversed if the rule is not adhered to in practice. Herein many fail in all kinds of gardening. Some of the plants I shall name cannot be raised from seed, and therefore must be purchased; others, again, can be raised from seed with a little care; and the first and foremost of those to be bought is the herbaceous Iris, and of these select from the Japanese or the German species, of which choose such as old Susiana, Nudicaulis, Minerva, Minos, &c. Some of these are rather high priced, but it is only the first expense. However, many beautiful varieties can be had at a cheap rate. Good mixed varieties can be had for 12*s*. or 15*s*. per hundred, and twenty-five strong roots will plant one of the five feet diameter beds with advantage; nor will such a bed require any more planting or attention for many years, except a top dressing with decayed manure or the horse droppings from the roads as before mentioned.

The next good thing is the Chinese Pæonia; a selection of twelve varieties of these will be quite enough for one of the five feet diameter beds alluded to, and will surpass in grandeur and delicacy all the other hardy perennial plants. Their cost is about 6*d.* each. Next in importance are the hardy herbaceous Phloxes, and of these select the Van Houttei. It is an old sort, but I have not seen (and I have grown many sorts since I had this) one that I like better than this remarkably showy and symmetrical trusser, with its pure striped flowers. Then get Beauty of Milrig, Countess of Holme, Rubra dianthiflora, &c. Of course these are old varieties, but they are good nevertheless, and I question very much whether many of the newer sorts that are three times the price are half as good. Of course I am quite aware that the beauty of a Phlox, like most other things, depends chiefly upon the way in which it is cultivated. As I have already said, I have had scores of the newer varieties of the Phloxes, but I never could yet produce a spike of flower from them like those I used to get upon Van Houttei, Beauty of Milrig, Countess of Holme, &c., nor do I believe they are to be surpassed as trussers.

A few others may be selected, to form eighteen varieties in all, to match them in character. These may be planted in one bed; eighteen plants will be quite enough, and if well planted will form a most superb bed at a cost of 6*s.* or 8*s.*

Next come the Campanulas; and of these choose

Grandiflora, a fine blue-flowered and white-flowered variety; these two will make a beautiful bed when intermixed; twenty-four plants will be quite enough for one five feet diameter bed. They may be raised from seed, of which I will speak under the head of 'How to Raise Seedling Plants.'

The next good hardy perennial plants are the Delphiniums, and of these choose Formosa, Barlowii, Perfection, and Nudicaule (scarlet). These may also be raised from seed, and will form a magnificent bed of eighteen plants. Soil, a good common one with sand in it.

Next comes the Aquilegia, the best varieties of which equal, if they do not excel, the Delphiniums in their general features. The leaf is very handsome, the flowers exquisite, and the colour of every shade. The single Columbine is a handsome thing, but the double is certainly most exquisitely formed. Select from this tribe A. cærulea flore pleno, Buttenana, sibirica, caryophylloides, and californica hybrida. Five plants of each will fill one of the five feet diameter beds to perfection, and form one of the few superb beds of hardy choice flowering perennials. Everybody knows what a hardy constitution the Aquilegias have, and not a few will appreciate them, though some persons may think me rather foolish for making so much of a common thing. Well, I cannot help it, for many of those old cast-off tribes even now excel the new ones. They may be raised from seed. (See 'How to Raise Seedling Plants.')

These Aquilegias should be raised from seed in the spring, and transplanted into nursery beds as soon as they are large enough to handle, and finally planted into the beds in the early autumn.

Another good hardy perennial fit for a bed is the Eschscholtzia crocea, or californica. Some persist in calling this genus an annual, but this is a mistake. Eschscholtzia crocea and E. californica are perennials at any rate, and will last for many years, and continue to give an abundance of gorgeous flowers, to which nothing can compare when in full flower on a sunny day. A five feet diameter bed of this will form a more conspicuous object on a lawn than anything else. They should be planted one foot asunder at the least, and about eighteen plants will fill the bed. They may be raised from seed in the spring and planted into the bed in June, when they will flower abundantly in the following autumn.

The next in importance are the Antirrhinums, which are a rich class of plants, especially the bicolor and tricolor varieties. The dwarf-growing and striped sorts are really handsome and rich in colour. Of these choose, to be raised from seed, the Tom Thumb class; and of these the best mixed seed, then there will be a good variety. The seed may be sown in the spring to flower in the autumn of the same year; but I prefer to sow it in the beginning or middle of August, thinly in a bed, where let it remain all the winter; then put the plants out into the bed where they are to flower in March, planting them one foot three inches apart. The soil may be of any good common kind; let the plants into it with a garden trowel, quite up to the first branches.

Another important class is the Dianthus, and of this choose the Auricula-eyed Sweet William. When a good strain of this can be had, there are but few things to equal them in flower. They may be raised from seed to begin with, and afterwards be propagated by division of the root every year. The old roots of the Sweet William after flowering divide and form into several crowns, and the strongest of these should be taken up after they have made some fresh root, which they will readily do if a spadeful of fresh soil is merely put upon the runners. When the late autumn or the month of February or March comes, transplant them, burying them quite up to the leaves; by so doing annually a good stock of flowering plants will be kept up, of a compact and good flowering character, otherwise old plants of the Sweet William will never continue to be flowering plants such as to give satisfaction. Nothing I am sure can surpass a full bed of these when in flower; twenty-four good plants will fill a five feet diameter bed, are quite hardy, are as handsome as anything that can be grown as a hardy flower, and are less trouble than most other plants.

Another hardy flowering perennial is the Double Giant Brompton Scarlet Stock. There is no doubt that this is one of the most noble things to be found in gardens. I have called it a 'perennial,' which, however, is not quite correct, for it is properly a biennial; that is, a plant that requires about a year to grow before it flowers, from the time of sowing the seed until it dies off; but the Brompton Stock will occasionally last more than one year, and will sometimes flower a second season. Some profess to be able to strike cuttings of Stocks, but, as a rule, every Stock struck from cuttings may be valued by comparison as gold among silver coins.

Thirty-six strong and robust plants will be enough for one five feet diameter bed, and if of a good strain will make a display in May and June of a superior style, and withal give out a fragrance which cannot be surpassed. The seed should be obtained from those who make it a particular matter of interest to save it, and that which will give double flowers warranted. It may be sown either in the open ground or in boxes or seed-pans (see 'How to Raise Seedling Plants'). These Brompton Stocks should be planted with the hand dibber as soon as they are four inches high, cutting off the long roots a little and letting the plants clean down up to the leaves, without turning the roots up.

The next in importance as a perennial is the Anemone—the single Scarlet Anemone, especially Fulgens, which is rather a scarce kind. It is remarkably well suited for a permanent bed with its large and brilliant scarlet flowers. It is best when not disturbed for some years, but a top-dressing with decayed manure once a year will be necessary. This kind must be purchased, and the price for the true sort will be much more than for the common single scarlet kind, which is a good thing, and may be had at 3*s*. per hundred; but Fulgens is as high as 6*s*. per dozen, and I have given as much as 18*s*. per dozen for it. The common single scarlet sort makes a very showy bed; one hundred good roots will plant one of the five feet diameter beds, as they must not be planted too thick at first, for they will increase and spread. Good ordinary garden soil of a light sandy nature, with some leaf-mould and maiden loam, to which a fair proportion of fine pit sand may be added, is fit for the Anemone. Plant in September or March. (See 'The Bulb Garden,' by S. Wood.)

PINKS AND CHOICE CARNATIONS AND PICOTEES.—Now there is such a diversity of each of these, and such a wide difference in quality, that I would most particularly caution amateur lady gardeners to be careful where they get them, and never to procure those which are advertised in numbers of forty, fifty, and a hundred thousand, at a very low price; for if they do, they will no doubt wish they had not done so. I therefore strongly advise my reader to get his or her Pinks, Carnations, and Picotees from well-known growers, and to give a fair price for them, as no really good ones can be had as proper plants for a low price. One dozen of each may be bought for 1*l.* 4*s.*, the Carnations and Picotees; 12*s.* per dozen pairs for the Pinks. 'Per dozen pairs' is the way all these are sold by good standard growers, and they will be really good at that price. Here I think it necessary to go into the propagation and proper growing of each of these classes, setting apart a chapter for them.

CHAPTER V.

ON THE PINK.

THERE are many classes of the Pink tribe, and numerous varieties of each class, all of which possess a certain degree of beauty, or some peculiar qualification of its own worthy of notice, and, I may say, of cultivation too. But I can only give the cultural treatment of the Dianthus caryophyllus. Some will ask, What is the difference between a Pink and a Picotee, for they seem very much alike? I admit it is even so to a great extent in some cases; but the difference exists in the lacings of the flower of each class. There are Pinks with no markings or lacings, but these are not florist's flowers. The florist's Pink possesses a lacing around the petals, and this is different to that of the Picotee, inasmuch as it is more or less fringed, or not quite so clean as that of a good Picotee; and this lacing differs again from the Picotee, inasmuch as there is some white on the edge of the petal beyond the lacing, while that of the Picotee is quite on the edge of the petal, forming a clean threadlike finish to it.

THE PROPAGATION OF THE PINK.

Some people multiply the Pink by slips, or splits, as some of our old ladies call them. That is an easy, rough-and-ready way of doing the thing, and it is even done by some professionals too; but this method of propagation is not good for the production of fine flowers, as these splits or divisions of the plants contain numerous pipings, some old wood, and no roots, so that they never become as vigorous as plants struck from clean pipings, and consequently never give such fine flowers. Some persons layer them, but as this way is extremely inconvenient for a very stout person to do, I advise everybody to pipe them as the easiest, most convenient, and certain way of propagation, and anybody can do it without trouble.

These pipings are nothing more or less than cuttings taken off the plant, and consist of the strongest young grass that the plants possess in the months of June or July. These pipings or cuttings should contain not less than three joints, counting from the top downwards; the third joint must be the one to form the base of the piping. Having selected as many of the cuttings as will fill a bell-glass, or hand-light, at about one and a half inch apart every way, proceed to prepare them as soon as possible. In doing this, snap off the grass by a short and sudden jerk, or they (the leaves) may be taken off with a pair of small propagating scissors; but those at the base of the cutting must be snapped off, first removing with a keen-edged small knife the base of the cutting nearly up to the joint, leaving a very small portion of the wood below it. Then remove the remainder of the base of the leaf with the thumb-nail, and carefully cut away the remaining portion of the stem up to the joint, but not into it; preserve the swell of the cutting thus:—

This base should be cut nicely over at right angles immediately under the swell of the cutting at *a*. This is really the secret of success in striking Pink and Carnation pipings.

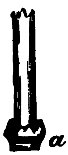

FIG. 1.—SECTION OF A PINK PIPING WITH THE BASE PREPARED

The next proceeding is the insertion of the prepared piping. Previous to preparing the cuttings, make the soil ready. This consists in forming a compost with two parts of decomposed leaf-mould sifted fine, one part maiden loam made fine also, and one part silver sand; well mix the whole, and having selected a spot under a south wall or fence, remove the soil, or place a few bricks on the surface, forming a frame to hold the soil, two bricks thick—*i.e.* one brick laid on another will be quite deep enough for it in which to insert the pipings. This little brick curbing (of course boards will do) should be large enough to receive the hand-light, or bell-glass inside, so that the light may rest upon the bed of soil, inside the frame. Having put down the fine compost, level it, and make it moderately firm with the hand, and all the pipings to fill the striking light at one and a half inch asunder being ready for insertion, take a small water-pot with a fine rose, and gently water the soil all over evenly to saturation. Let it remain for ten minutes or a quarter of an hour, then forthwith proceed to insert the pipings one by one, by gently pressing them into the wet bed of soil up to the leaves, which should all be left upon the top joint. The pipings will go into the bed of fine wet soil easily without any dibber stick, and when all are in, let them rest for an hour; then put the glass over them, keeping it quite close for a fortnight or three weeks, by which time the pipings will be rooted, when some air may be given them by placing a thumb pot under the light on one side. Little or no shading will be required from the time that the pipings are inserted till the air is admitted, *i.e.* till they are rooted; for if shading is done under these circumstances, many of the pipings will no doubt rot off.

I have found this to be the surest and quickest way of making Pinks from old stools, and I think it will be found that plants made from pipings make better and more robust plants than those do which are made from layers. The fact is, those made from layers are succoured by the old stool, which when the layer gets detached misses its sustainer for some time, while the plants from pipings have to sustain themselves all through. In three weeks from the time the pipings are put in they will be all rooted. Let them remain one week from this to get strength, and then one more week with the glass entirely off, and at the end of the fifth week the newly struck young plants may be removed and planted out into beds of good fine soil.

THE SOIL AND SITUATION OF THE BED.

The situation of the bed should be a south, south-east, or south-west aspect, and the soil should be a well-blended compost of maiden loam, old decayed manure (or horse droppings swept from the road) and sand. If horse droppings are used, enough sand will be swept up with them without adding any more. This manure may be added to good common garden soil, which will grow Pinks well.

The bed for good choice sorts should be raised three or four inches above the ground level, to ensure good drainage. The plants should not be planted closer than nine inches apart, and from that to twelve every way. The soil being made fine, proceed to plant the young plants with a common hand-dibber, or with a small garden trowel, letting them in well up to the leaves; and when all are in, water the whole to settle the soil well about them. Here they may remain to flower, occasionally stirring the surface of the bed about the plants with a light hoe; this will keep down weeds and encourage the growth of the plants.

WINTERING THE PINKS.

In some localities, and during severe winters, it will be dangerous to leave the plants unprotected, as the cold drying and frosty winds will cause them to suffer from the effects thereof, and if much exposed many of them will probably die off. In such localities and under such circumstances, protect them by sticking either fir branches or furze into the bed pretty thick among the plants, driving them into the ground so as to make them firm, and setting them upright. These fir or furze spray branches should not be above ten or twelve inches above the Pinks after they are driven into the bed, nor is it necessary to envelope the plants, but merely to prevent the high winds from blowing them about, and to afford them shelter during the dry frosts. As soon as these are over, in the spring, they may all be removed, and the surface of the bed top-dressed with horse droppings from the road, and the surface of the bed stirred all over to a depth of three inches, leaving it fine and neat.

In some cold soils and in some counties it would be a good plan either to pot the newly struck plants for the winter, or to plant them into a shallow cold frame to remain there till all danger from the injurious frosts is over, and then to plant them out into the beds. If potted, two plants may be put into a forty-eight size pot, or four into a thirty-two size. If they are planted into soil in a cold frame, they may be placed as thick again as they are required to be when planted out into the beds. Draw the sashes quite off every dry day, and give all the air possible on all occasions; so also in the case of the potted plants; and look out sharp after slugs and the field-mouse. These are troublesome pests at times. The mouse lives on green meat, *i.e.* grass and plants of various kinds, and if this fellow gets into the frame among the plants in the winter, it will probably cause considerable annoyance. If there is any danger of this, lay some nicely prepared one inch square pieces of fresh bread and butter, with some of the popular rat poison mixed thinly with the butter, and deposited in small empty flower-pots turned on their sides in the frame.

FLOWERING THE PLANTS.

As the Pinks advance towards flowering, and numerous flower stems are thrown up, thin them out, reserving the strongest for flowers; and these again may have the flower pods thinned so as to get extra fine flowers. Sticks must be placed against the flower stems as soon as they are six inches high, to which they should be tied at once with thin strips of roffia. It will be observed that a great many good Pinks are addicted to bursting, *i.e.* the calyx is so short that the numerous petals contained in it are more than the sheath or pod can contain without splitting. To prevent this a piece of thin cardboard should be placed on the calyx before the flower has opened at all, a round hole being cut in the centre of the card so as to fit on the pod moderately tight, but not too tight. This card should be cut round, and as large as a penny piece, or a little less than the fully expanded flower will become.

In most cases the bursters, as we call them, are the most double flowers in both Pinks and Carnations, and frequently the flowers are as good (or of better quality as far as markings go) as those that do not burst; yet I am of opinion that this bursting of the pod-sheath or calyx should be an objection in the case of an exhibition flower, because, let the flower be never so good in other respects, nothing looks worse than a Pink, Picotee or Carnation that has lost its symmetry, and seems a mass of confusion, like a fair maid with dishevelled hair. The flowers might be kept in order by a small spring wire placed upon the calyx just before the flower opens. This circular spring may be of such an elasticity as to admit of a little expansion, so as to allow of the pod swelling to some extent.

As soon as the flower pods are nearly full grown, a good watering with some moderately strong liquid manure may be given to each plant; this will help to develop extra fine flowers.

Ordinary and good border sorts may be continued in the old stools, but these should be taken up once a year, divided, and replanted, digging them in well up to the grass. This should be done during the months of August or September, but not later; using some old manure, sand and maiden loam upon the plants as you proceed.

Pinks may be forced readily, and for this purpose some sorts are better adapted than others, and these should be selected. They are generally not so double as those not so well qualified for forcing. To get good strong young plants fit for this (and old ones are of little use), recourse must be had to early propagation; and to do this, cuttings or pipings must be had as early as April or May, from plants grown in pots in a forcing house or warm greenhouse, placed there in December, January or February.

These pipings can be struck in deep seed-pans filled with the same kind of soil as before alluded to, and kept in the propagating house. As soon as they are well rooted, plant them out into good fine soil, water, and encourage them to grow as fast as possible; and by September they will probably be large and very strong plants. They should be cut over in August if the grass gets too long, and by the end of October they may be carefully lifted with a large trowel, having previously well soaked the ground with water. Lift each plant with a good ball of earth, and place them either in seven-inch pots, or in pairs in nine-inch pots; but if boxes are made to hold six each, and are seven inches wide, and eight inches deep, by placing the plants nearly close together, a considerable saving of space in the room will be effected, and the Pinks will do even better. It is not a good method to place the Pinks in heat at once, but let the newly potted plants be placed in a cold frame or in the house, giving them air for a month or six weeks previous to commencing the process of subjecting them to heat, when a low temperature may be commenced with at first. As soon as the green fly appears on them, smoke them; and if any signs of mildew appear, dust them over with flour of sulphur.

CHAPTER VI.

THE PICOTEE AND CARNATION.

THE choice named varieties of the Carnation and Picotee are in my opinion among the most notable gems of the garden, and certainly no good or even ordinary garden should be without them. I say this not simply to induce the public to purchase them, but as a fact; and no lover of real gems in the flower garden should be without some good Picotees and Carnations.

Some fine sorts may be raised from seed, to be obtained at the best seed shops. I have raised many good ones in this way, but not one in a hundred seedlings will prove fit for standard show sorts. I have raised as many as five hundred Carnations per year from seed, and a great number have turned out well, but perhaps not one fit for a show plant. I merely mention this in order to prevent purchasers of seed at even the very best seed shops from expecting too great things. I know that Carnation seed carefully and perseveringly saved from the very best named prize sorts will produce similar fine flowers, and one in fifty may turn out a gem; but it is hard to get such seed at any price, for the best growers of these flowers do not care to save much seed from their choicest named sorts, and when they do save it they keep it for their own sowing. So that to get seed that will certainly produce some really good prize varieties, you must save it yourself. Here it is at once evident what must be done, viz. to purchase good sorts of those who grow them for sale, such as Turner of Slough, and some others; but this grower is no doubt one to be depended upon for quality. It is far better to purchase one dozen really good ones than to possess a thousand inferior sorts.

The stock should be purchased in the month of September or early in October, and then be shifted from the small pots into six-inch pots, putting them in pairs. Keep them in a dry cold frame till March or April, when they may be either shifted into eight-inch pots to flower, or they may be planted out into beds of good soil; but for the choicest sorts it is far better to flower them in pots. The compost should consist of good tender loam two parts, one part good old decayed dung, and one part silver sand, or some other clean and sharp sand free from minerals. This compost should not be sifted, but chopped fine with the spade, and well mixed, first putting a good drainage in the bottom of the pots to ensure the carrying off of the superfluous water. Then place some rough pieces of turf over the crocks, put the plants into the pots and fill up with the compost moderately firm; water, and set them in some sheltered spot in the sun, or, what is better, plunge the pots up to the rims in tan, cocoanut fibre or cinder ash.

FLOWERING THE PLANTS.

As soon as the plants start for flower, place a neat stick to each scape, and tie it early to the stick. When the pods of flower all appear, thin them out to one half or one third, and then give the plants a weekly watering with weak liquid manure. One peck of sheep droppings diluted with fifteen gallons of soft water is an excellent manure; or the drainings from the stable manure heap, diluted two thirds with clean water, is also a good liquid manure; but in no case give it too strong, nor oftener than once a week. As soon as the flowers begin to expand, in order to preserve a protracted flowering season, the pots may be removed to a shady spot, or be screened from the midday sun by a thin awning of calico; if they are set under a west or north wall, the trouble of screening them with awnings will be saved, and the plants will do equally well.

SAVING THE SEED.

The raising of new sorts of the Carnation and Picotee is certainly a most interesting occupation for anyone, especially for those who can afford the money to purchase good stocks from which to save prime seed, and who have leisure time to do the thing well, for a little pains may be productive of great gains. This depends upon the care taken in obtaining extra vital seed, and this is done in the same way as that for the double Stock. The seed is produced from the kind that will give double flowers by thinning out the seed-pods, reserving only the leading pods to bear seed, and then giving one good watering to the plants when the seed is formed, and before it gets half ripe, with liquid manure; this will increase its value for producing prize flowers.

It is absolutely necessary and most important that the plants should be exposed, during the formation and the ripening of the seed, to the full influence of the sun; and if the season should be cold and wet, the plants in pots should be put in a house, or in a cold frame, giving an abundance of air. When the seed is ripe, which can easily be ascertained by picking a little piece of the bark of the seed-pod off (if it is ripe, it will be of a blackish brown), then pick the seed out of the pod, and dry it off well by exposing it to the sun for some days, laying it in a seed-pan on paper in the conservatory away from the attacks of mice; and when it is quite dry, put it in an impervious seed paper packet till the following March or April.

SOWING THE SEED.

March or April being come, then is the time to sow the Carnation, Picotee and Pink seed. Ordinary sorts may be sown in the open ground, but the more valuable should be sown in deep seed-pans, and set in a mild heat till it is well up. It may then be set in a close cold frame for a week, when air must be admitted for a week or two, after which the seedlings may be set outside, and as soon as they possess six or eight leaves, prick them off into other pans, putting say six plants into an eight-inch pan, where they may remain till the following March or April, when they should be transplanted into beds of good fine soil to prove them. Here they will flower in the following July, when selections may be made as to quality; and if exhibited, judgment will be passed upon them from this point as to their merits.

THE PROPAGATION OF THE CARNATION.

This is chiefly done by layering, but it may also be done by pipings; it is, however, necessary to subject the latter to heat to be successful in rooting them. I have rooted them on the same plan as described for the Pink, but there is a large amount of uncertainty attached to the striking of choice Carnations by that method.

Those amateurs who have no means of striking pipings of Carnations (such as small striking glasses, or heat), had better layer them. This may be performed by anyone, either by a lady or gentleman. In the month of July select the longest and strongest young growth on the plant, and having first put down to each plant a measure of fine compost (similar to that in which the Pink pipings are struck), say half a peck or more, level it down round it. Then cut the leaves from each branch to be layered from the main root up to the second joint from the top of the layer, leaving the grass or leaves untouched above this; then on the under side of each layer make a tongue slit, entering the knife (which should be a pen-knife or a budding knife) in at the third or fourth joint from the top, and drawing it upwards for an inch; gently bend the shoot upwards, when the tongue will spring out, as seen in the diagram.

If on bending the layer up the tongue does not spring out sufficiently, place a small piece of stick in the slit nearly up to the ground line, or a barleycorn will do; this will keep the tongue out enough. Now scratch away a pit in the soil and place the tongue in it, and put a hook-peg upon the layer at *d*, to hold it firmly, then fill up the hole, gently pressing the soil to the layer; and when all are done on the plant, give the whole a moderate watering with a fine rose to settle the soil well about the layers, and should the weather prove dry, frequent waterings will be necessary till they are rooted, which will be in about a month or six weeks' time, when the layers should be disunited from the old plant by passing a keen-edged knife through the part *a* at *e*, leaving the layers undisturbed for a week or ten days, or more, when they may be removed and potted, or planted out.

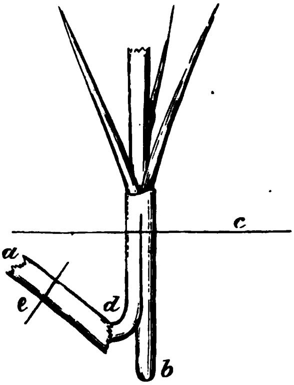

FIG. 2.—A SECTION OF A CARNATION LAYER.

a, leading from the main root; *b*, the tongue; *c*, the ground line.

This layering applies to plants grown in the ground; and those grown in pots must either be carefully turned out ball entire into the ground, or have the pots plunged for the purpose, as there is no method of layering Carnations or Picotees grown in pots without either plunging the pots up to the rims, or turning them out as before stated. Therefore recourse must be had to striking cuttings or pipings of those grown in pots. Great care is needed here to ensure success with regard to some sorts. As soon as the pipings have grown long enough, *i.e.* as soon as they contain three joints or more, take them off below the third joint, and have some nice mild heat ready, 55° or not more than 60° Fahrenheit—no more heat as a bottom heat must be allowed, nor more for top heat. The frame in which the Carnation pipings are to be struck should be facing the north, and entirely screened from the full south midday sun, because it is absolutely necessary to keep them close, and if the frame is facing the south, with the bottom heat and the sun heat combined, the temperatur will be much too high for the pipings to root.

There is a good deal of difference between these choice Carnation and Picotee pipings, and the Pink pipings, as the latter will strike more freely than Carnations. The preparation of both is the same, and the soil may also be the same. The pots may be either small or moderate sized ones; if three-inch pots are used, two pipings may be inserted in each; or if small forty-eight sized pots are used, which are more than four inches in diameter, four pipings (two pairs) may be inserted in each. The pots being selected, the soil ready, and the heat in good steady order, proceed at once to fill them, previously placing a few crocks at the bottom; press the soil firmly in the pots, and then prepare the cuttings as before described. (See Pink Pipings.) As soon as the cuttings are in, water them with a fine rose water-pot, let them drain for an hour, then plunge the pots up to their rims in cocoa-nut fibre, tan, sawdust, or cinder ashes, placed on the heat, close the lights, and watch the progress the cuttings make; especially see that the bottom heat is not too great. As soon as the pipings show any signs of being rooted, which will be seen by the growth of the heart leaves, give them a little air by placing a thin block of wood under the sash.

DRESSING CARNATIONS.

Dressing the flowers of Carnations and Picotees is a thing that has of late occupied the attention of some persons considerably. And I must say many sensible and appropriate observations have been made, much to the annoyance of its advocates, but to my gratification; for above all things, I think to extract disqualified petals from the flower, and to place artificial or false ones in it, and to torture the flower of a Carnation or Picotee by putting it into a position other than that in which it grew or would grow, on purpose to obtain an exhibition prize, is an imposition that should not by any means be tolerated by honest judges at any flower show.

Suppose (and this is not beyond supposition) a lady or gentleman goes to a Carnation show and there sees some Carnation and Picotee flowers of a beautiful and symmetrical character which attract them so much that they are anxious to obtain similar ones, and inquire where they can get them. They are told, and they then order several pairs at a high price, it may be at 10*s*. or even 1*l*. per pair. Well, when they bloom the next season, the flowers are scarcely recognisable when compared with those they saw at the flower show; and say they, 'I have been sadly taken in, for these are no more like what I ordered than an apple is like a nut.' Then such persons are so disgusted with the whole affair, that instead of taking a substantial and abiding interest in Carnation growing, they lose all interest in it and throw up the thing altogether, and the trade is looked upon as a swindle. Such, no doubt, are the real effects of 'dressing Carnations' for exhibitions. Now, I say, let no prizes be given for flowers thus dressed.

Some do, however, advocate it, and foolishly compare dressing Carnations for exhibition to the pruning of a Pear tree, which latter process they call dressing, —to which it can bear no similarity whatever. The pruning of the Pear tree, or Peach tree, does not change the character of the fruit, while the dressing of the flowers of the Carnation, in order to obtain a prize, does. Again, a grower of Carnations may get his flowers as large as a cheese-plate if he can, and yet not cheat the public; and a man by the so-called dressing of his Pear trees may get pears double the size they would be if not pruned, and still their character would not be changed; but 'dressing Carnations' so as to alter the marking, and to produce flowers beyond their ordinary character by means of chemicals and other devices, is a fraud and an imposition upon the public, just as much as it is to dress up old cloth so as to make it look like new, and then to palm it off as such. It seems to me equally fraudulent to 'dress up' Carnation flowers so as to make them appear far superior to what the sort really is. If a man is not clever enough as a gardener to produce good and fine flowers from the sorts fit for exhibition, he should be content to grow them for his own gratification or that of others, quietly at home. In my humble opinion it is the constant disappointment in things of this kind that in a great measure militates against the interest in popular gardening. Nothing should be too highly represented, *i.e.* it should not be flattered. It is much better to err the other way, for really good things will recommend themselves. The wholesale deception in all trades, especially in the case of gardening, cannot be censured too much. If we wish the art of gardening to make progress, nothing but good things and true to their description should be sold.

Another good perennial is the Pansy, and also the Viola: the former everybody knows. The Violas as a rule do not give much scent, but they are most prolific flowerers and are first-class things for bedding out. They may be raised from seed, and be easily multiplied by cuttings as for the Pansy. (See the chapter following on the Pansy.) I do not find many amateurs who really know how to manage the propagation of these desirable and very popular flowers. This I hope will be a sufficient excuse for my treating at large the Pansy, Pink, Carnation, &c.

CHAPTER VII.

THE PANSY.

THE Pansy, unlike the Polyanthus and the Auricula, is nearly ever-flowering and ever-changing, presenting multitudinous features, out of which numerous imaginary or real figures may be formed; but a really good Pansy is certainly a superb thing, and as they are of comparatively easy culture, it is somewhat astonishing that we see so few of them in our villa and cottage gardens, especially as it is an exhibition plant, well adapted for cottage garden exhibitions; being in flower at all times, it is never too soon nor too late for the exhibition. I particularly recommend cottagers and residents in small villas to possess a collection of, say, a dozen good sorts for a small bed. The cost is not much, and they may be grown by anyone who possesses a square yard of ground. In the few following pages a very simple method is put before the reader, to show how to grow them for competition.

HOW TO OBTAIN THE STOCK.

Some good seed may be had of private growers at home. It is quite a mistake when amateurs send abroad to some warmer climate than ours for the seed; curious and novel sorts may be thus obtained, but it is rarely that a good show variety fit for our exhibitions can be had from seed from a warm climate. Those who are in earnest about growing the Pansy for exhibition, or who are desirous of succeeding in raising new sorts, should purchase a few really good named sorts of our midland or northern growers, such as Turner of Slough, or Chater of Saffron Walden. The latter is a northern grower, and the former a midland grower; both of note as regards the Pansy. There are also many more of perhaps equal standing as growers of this favourite flower. The best way is to get their catalogues, and select, say, one dozen distinct show sorts in September or not later than October, and then to plant them out at once.

THE SOIL.

The soil best suited for growing the Pansy is one composed of a sandy loam with a good proportion of decomposed old manure from old cucumber or melon beds. The bed should be well drained, and raised a little above the level, so as to give a free drainage to the plants through the winter months. This is a very important thing in Pansy growing, for if the bed is not sufficiently drained, many of the more tender sorts will shank off, as gardeners call it, *i.e.* they will rot off at the surface of the soil; and so they will if the surface of the bed is beaten down by heavy rains, and rendered impervious to the sun and air through its being made too fine by raking, or through not containing sand enough to keep it open.

It is quite possible to over-nurse the Pansy as well as the Auricula. The soil should be well prepared by a judicious blending of the compost, so as to equalise its component parts throughout the whole depth of the bed, which need not be more than one foot deep. A stratum of coarse maiden loam and decomposed manure or leaf-mould may be put into the bottom, and the upper part of the bed should be made fine, *i.e.* chopped moderately fine with the spade, so as to well mix the loam, manure and sand, which may be in the proportion of one part of each of the former to about one fourth of the latter; or two barrowfuls each of maiden loam and old dung, and one of sand. The sand should be of a clean, sharp nature, that which is swept up from flint-stone or gravel roads, but not from limestone roads, nor indeed from any roads made of rock stone, as this often contains poisonous minerals. The sand from flint or gravel is pure, and may be used without fear of any bad results.

The surface of the bed should not be made too fine—not as fine as sifted cinder ashes or sand, but two degrees coarser than such ashes. Soil left in this state after the plants are inserted is far better itself, as well as for the well-being of the plants to winter in, than that which is made finer.

THE SITUATION OF THE BED.

The Pansy will grow and flower well in any aspect, a westerly or northerly one being by far the best; but I think a north-westerly one may be considered as favourable as any; here an amount of solar influence will come to them sufficient to give a robust character and substance to the flower without affecting its colour, which is always the case when more under the influence of a hot sun. The less sun the Pansy has the better for the flowers, especially as regards some colours. I find that, under certain circumstances, the same flower differs so much that it almost appears another thing altogether in the early spring to what it does in the summer after the sun has borne upon it. Others are not influenced in the same way, because they contain colours that are not to be so affected; yet even those flowers become more flaccid when under the full influence of the sun, so that, let the kind be what it may, a tolerably sunless aspect is the best.

Pansies as cut flowers last several days, and this may be an additional reason for planting them in a situation best suited to the production of good flowers, notwithstanding that it may be even where they are not immediately connected with the general sunny flower garden. I know of no better sun-break for the Pansy than that employed for the Auricula.

HOW TO PLANT THE PANSY.

In due time prepare the bed beforehand, and plant then with a garden trowel at not less than nine inches apart every way. In planting the Pansy, lift the soil out with the trowel, and let the plants in up to the leaves, then fit some fine soil to them moderately firm, and leave the surface of the bed a little rough; by no means rake it down very fine. Put in some metallic or terra-cotta labels against each plant, and leave them for a month, when the bed should be surface hoed, and left for another month; then hoed again, and so on through the winter months. Slugs are fond of the flowers, therefore look well after them; but more of this hereafter.

THE PROPAGATION OF THE PANSY.

As the young stuff comes up from the roots of the plants, and when about two inches long (not more, but rather less), and before it flowers, take it off with the knife close down to the surface of the ground; trim off the lower leaves, and then insert them three or four into three-inch pots, or, if in the summer months, insert them in the ground under a north wall, in fine compost with a good proportion of fine sand. The cuttings may be taken off whenever they can be had, watching for them, for if they are allowed to pass a certain stage of growth they become useless for cuttings, and will prove disappointing as a supply for young plants.

The cuttings (or the young growth best adapted for them) soon get hollow when it is in the least doubtful whether they will strike root, and then most probably they will not strike root at all, so that a little watching to catch them at the proper stage of their growth is necessary. Insert them in the soil with a small stick rounded like a hand dibber. Close the soil to the base of the cutting moderately firm, and water it with a fine rose. Pansy cuttings will soon strike, and when well rooted they may be transplanted into beds as for mature plants. (See 'Planting.')

If the cuttings are taken off in the late autumn, say September, which is about the best time to make good plants for spring flowering, they should be inserted in pots, as I have said before, and set in a cold frame, or under a hand-light; but they need not be kept too close, a little air may be admitted at all times, and at first they should be shaded during a hot sun. These autumn-struck cuttings should be either potted off singly into five-inch pots or planted out in the ground in open weather in February or March; if the weather is severe, as it may be in February, or even March, retain the young plants in four-inch pots until it is milder; but if they must be kept in pots, give an abundance of air night and day to harden them off well before planting them out.

The seed of the Pansy may be sown in the spring or autumn; but I prefer the month of September above all other times for doing so. From this sowing an early spring flower will arise, and this is no doubt the best time for it before the heat is great; but if the seed is sown in the spring it will bloom in the middle of the summer, when the flowers will be small and inferior in every way.

SUBSEQUENT TREATMENT OF THE PANSY.

This refers to the maintaining of a vigorous growth in the plants, and the development of fine flowers. To do this, top-dress them with droppings swept up from the road, or with old decayed manure, in February, first stirring the surface of the bed an inch or two deep; then carefully distribute the manure evenly over the whole of it, being careful not to come in contact with the stems of the plants with too much of the manure, *i.e.* do not surround their stems with a quantity of the manure so as to exclude the air, so that too much damp is retained round the main stem, for through that many choice sorts are lost by shanking off as it is called. Let the manure remain on till the month of March or April, when it may be merely let into the surface of the bed, and leave the soil moderately fine.

As soon as the flower buds appear, apply some weak liquid manure to each plant, not immediately on the main stem, but round it, in one or two good soakings, so as to reach well down to the roots below. This will materially help to develop extra fine flowers. This liquid manure may consist of some sheep droppings put into a tub, as directed for the Auricula. It must be cautiously given to some slow-growing sorts, as these do not consume so much nutriment as the fast-growing ones, and too much would probably prove an injury to them. The flower-buds may be thinned out when too many appear at once on a plant.

THE DISEASES OF THE PANSY.

The Pansy is liable to die off through the soil being too retentive of moisture. The remedy for this is a good drainage below. (See 'The Soil;' and 'How to Plant the Pansy.') In some localities it may be necessary to take some additional pains to prevent this disease. These localities are such as are surrounded by natural vapour, which will hang about and overcharge vegetation with hydrogenic acids, or through its being in a locality that creates more moisture than can be disposed of by the functions of the plant, or carried off by the absorbing elementary influences. The plant suffers as a consequence, and those that are of a less robust constitution succumb. I once experienced a great loss from this very cause. When this is the case, it is a very good plan to break up as much charcoal into lumps as large as horse-beans as will mix into the whole surface of the bed, so as to form a moderate proportion in compound. Especially introduce some extra lumps round each weak plant; this will mechanically and chemically act in a beneficial manner in regulating and purifying the overcharge of vapour.

The Pansy is also liable to the attacks of insect pests. Slugs are very fond of the flowers, and will seriously interfere with the competitor for prizes, if not assiduously watched. As soon as the flower buds appear, take a lamp and a box of fresh-slaked lime, in the evening of a warm day, and throw the light upon every plant as you proceed over the whole bed. As soon as you find a slug, drop a few grains of the lime upon it, and sprinkle a very small portion over the surface, but not on the plants—not that lime will injure Pansies, but it might disfigure the flowers. It is of no use whatever to apply lime to the plants during the day after the sun is up, nor before it sets, with a view to destroy slugs. They are too cautious to venture out while the caustic properties of the lime remain, which is but a short time after it is applied to the ground, then it is of no further use in this respect. Picking them up and putting them in a flower-pot with a cork pushed into the hole at the bottom, and a little lime or salt sprinkled on them each time any are taken, is a good plan, but it must be done either early in the morning or late at night.

The Pansy is also liable to the green fly, and when this insect attacks them fumigating with tobacco paper must be resorted to. It is likewise subject to mildew, and in this case dust the plants with sulphur. The wind often proves destructive to this plant, and if the bed is exposed to cold winds, which are frequently boisterous and of a drying nature, they will twist them clean off at the surface. To prevent this, fasten them down with hook-pegs—three or four of these pegs will secure each plant. Earwigs will eat the petals, and must be trapped as in the case of Dahlias.

THE PROPERTIES OF A GOOD PANSY.

A fine flower must possess density of colour, and must be of good substance. Its outline should be pretty circular, and be free from buckling—*i.e.* not undulated or waved, but carry naturally a pretty flat face. The ground colour may be white, yellow or pure straw, or scarlet if you can get it. The colours attached should be decided, *i.e.* without running into the ground colour. The petals should bear a good proportion one to the other. If the top petals are disproportionate in size to the lower and wing petals, the flower may be condemned by the judges, even if its other qualities are good. The colours on the ground must be equal, and the eye of the flower may radiate, but not extend beyond its fair limits—not above a circle of half an inch, three-quarters of an inch, or an inch; at any rate the rays must not extend to the margin of the petals.

There is now a new class of flower which possesses blotches, and is very curious and remarkable; but most of them are inconstant and unreliable. Nevertheless they are all more or less beautiful, while some are very handsome.

CHAPTER VIII.

THE POTENTILLA, GLADIOLUS, RANUNCULUS, ETC.

THE next good perennial is the Potentilla. Few persons are aware of the beauty of some of these:—Atrosanguinea, rich dark red; Formosa, fine large yellow; Menziesii, red spotted; Vase d'Or, large double yellow; Versicolor, double yellow flaked red; Cameleon, red striped purple; and a variety besides, all of which are truly handsome, and will make a very interesting, beautiful and durable bed. They are quite hardy, and will do well in any good common garden soil. Thirty plants will fill one of the five feet diameter beds. They may be raised from seed. (See 'How to Raise Seedling Plants.')

The Pentstemon is also a good perennial. A selection of the varieties of the free-flowering Gentianoides makes a useful and handsome bed. They may be raised from seed and also by cuttings. (See 'How to Raise Seedling Plants.')

Now comes the justly popular and grand Gladiolus. The hardy varieties are very showy, and may remain in the ground from year to year, and will not fail to give an abundance of fine flowers by top-dressing the bed annually with three or four inches of decayed manure after the flowers are over. Thirty good roots will fill a five feet diameter bed. The roots may be planted in the late autumn, or in the month of February. Let the bulbs into the bed four inches deep with a trowel. The bed should be well drained, and of a good deep soil of a sandy nature, having a fair proportion of sand in it. Good strong bulbs of the hardy sorts may be had for 10*s.* per hundred.

Ranunculus aconitifolius flore pleno, white; R. acris flore pleno, yellow; and R. parnassifolius, white: are all desirable, hardy, and fine flowering species, which as a group will make a very pretty bed. Place six of the acris flore pleno in the middle of it to fill up the centre, and next to this plant a row of aconitifolius, and on the outside, nine inches from the edge, a row of parnassifolius—a dwarf. Here then will be a really handsome bed of perpetual duration; forty plants in all will fill a five-feet bed. These cannot be raised from seed; but roots may be bought from 6*d.* to 1*s.* each.

A good perennial is the Double White Rocket; a small bed of this will form a beautiful white group resembling double white Stocks, but of a superior reflex to the Stock. This is an old plant which is now seldom or never seen, but which surpasses most of the new things. The plants should be propagated by cuttings from the side shoots as soon as they are long enough, and inserted under a hand-light; they are quite hardy, but require a good porous soil: a wet and cold one will not suit it during a wet winter. The Double White Rocket used to be one of the choicest hardy perennials, and why it should not be so now is a mystery to me, for there is nothing to be found that can supersede this good old plant for beauty and for fragrance in the evening.

This variety will be found under the name of

Hesperis alba flore pleno. The best time to plant it is either early in the autumn or in the month of March; but I prefer the autumn and the month of October; for then if good strong plants are put into nicely prepared soil, they will re-establish themselves before the winter, and be fit to give fine spikes of flower in the following season. There is also a purple-flowered variety of the same quality and character which would make a splendid companion bed to the white. Twelve plants of each variety will fill two three feet diameter beds, and will perfume in a most agreeable manner a good-sized garden. No one can object to the fragrance of the Rocket, for it is not too sweet, nor is it accompanied with any degree of pungency.

The Lychnis is next in importance as a really good and hardy perennial. There are now many beautiful varieties of the Lychnis fulgens, but I shall only refer to the old Lychnis chalcedonica flore pleno, scarlet, and L. chalcedonica flore pleno alba, and of these I prefer the scarlet above all others. This truly superb old flower has now become nearly extinct, notwithstanding the fact that it may be said to exceed in vividness of colour every species of hardy flowers; the colour being a bright scarlet with an extraordinary reflexion. This species runs rather high—about two feet when in good ground; but if it is planted in mild and moderately light soil the growth will not be so strong and there will not be quite so much flower. The double varieties are propagated by cuttings of the firm young side shoots, and by division of the roots. Good plants of the double varieties may be had of growers of it at 4s. and 6s. per dozen. Eighteen good plants will soon quite fill a bed five feet in diameter, and will then form a brilliant group which will last a lifetime. If a bed were planted alternately with the scarlet and the white, it would form a beautiful object. There is a single scarlet Chalcedonica variety which may be raised from seed, and which is equal to the others in vividness as regards the colour of the flower, but the double sort is the best.

THE HOLLYHOCK.—In my opinion the Hollyhock never has an opportunity to display itself better, if so well, as when grouped in a good-sized circular bed. Let a bed ten feet in diameter be made in the middle of a flower garden, supposing the garden to contain not less than twenty square perches—not a large space, and most villa gardens contain much more. This ten-feet diameter circular bed contains but about eight square yards, and a square perch contains thirty square yards. A ten feet diameter bed in a circle looks large, but in actual measurement it contains but little; and it is not too large for most gardens for eighteen plants. These may be rather too many for the bed; still, if the ground is deep and rich, and annually manured with some few good waterings of strong liquid manure, the plants whilst in flower will continue in good health and carry fine spikes of flower.

They should be planted in the month of October, in the early part of the month; or the planting may be deferred till February or March; but if they are planted in the autumn, the chances are much better for fine flowers. The bed should be dug deep, turning in some good old manure and some sand. In planting, care should be taken to arrange the plants so that the strongest growers are in the middle. Put them in with the spade, letting the roots well down into the soil. If the roots are planted in the autumn, lay a spadeful or two of cinder ashes, old tan, or cocoa-nut fibre refuse round them, should the weather prove severe, and let it remain there till March.

Good named sorts may be had of noted growers, such as Chater, of Saffron Walden, at a very moderate price; but choice varieties may be raised from seed, by getting it from such a grower as the above named, who sends out seed warranted to produce first-class double flowers. (See 'How to Raise Seedling Plants.')

THE WALLFLOWER.—Plants of this kind raised from seed of the double German varieties will prove a most desirable class for 'The Ladies' Multum-in-parvo Flower Garden,' being of a hardy, dwarf and free-flowering nature. If the seed is obtained from those who import it in the original sealed packets direct from the growers, few out of a hundred will be perhaps worthless; but as a rule plants raised from the seed obtained from Germany will produce splendid flowers, and when they are planted as a group or cluster in a five feet diameter bed about twelve inches apart, they will make one of the most interesting beds possible to get from seed. A one shilling paper of the best mixed sort will raise as many plants as will be required under any circumstances. The seedlings should be raised during the months of April and May for flowering the following spring. (See 'How to Raise Seedling Plants.')

THE ŒNOTHERA.—There are only three or four varieties of this tribe worthy of a place in a good garden, Œ. macrocarpa, Œ. taraxacifolia, and Œ. acaulis, a beautiful silvery white flower: the first named is a very large bright yellow flower, and the second is similar as regards size, only white; but I should recommend macrocarpa and acaulis, each of very dwarf habit, and free flowering. A three feet diameter bed of each will form a group of interesting small beds through the summer. Just as the sun is lowering towards the horizon in the evening, the Œnothera will be seen (if you stand by the bed) to develop its beautiful bright flowers with enchanting and almost magic rapidity.

The ground must be good, but not over-rich. The plants may be bought, or they may be raised from seed. A one shilling paper of each will raise as many plants as such a bed will require. (See 'How to Raise Seedling Plants.') They should be raised in the month of May to flower the following May and summer of the next year; or they may be raised in the month of August, and planted out in the following March or April.

PART II.

ECONOMICAL ARRANGEMENT OF THE FLOWER GARDEN.

CHAPTER I.

THE GARDEN OF PERMANENT FLOWERING CLIMBERS FOR BEDS.

I NOW come to what may be considered out of the ordinary way, and in some measure new; but as one thing generally suggests another, so some improvements may probably result from my remarks.

I am quite of opinion that anything out of the common way, when it is at the same time attended with economy, will in most cases recommend itself. The tribe of Clematis in variety, and the Lonicera, Pyrus japonica, Pyracantha, Vinca, and Passiflora, with the Climbing Rose, are no doubt used for bedding in some parts already, especially the Clematis; but, as a rule, one must go a long way to find such a thing at present. Be that as it may, the Clematis is no doubt a plant of the first order for bedding purposes.

THE CLEMATIS.—Now select for a good and beautiful flowering variety, Flammula, a well-known free-flowering white sort, and quite hardy: this is a fast-growing kind, and one plant of it placed in the centre of a five feet diameter bed would be quite enough by training the branches and pegging them down with hooks all over the bed. Next take Jackmanii, a large deep purple or violet-flowered sort and a free grower; one plant of this is enough for a five feet diameter bed, the soil for which should be of a good sandy nature. Next take Azurea Grandiflora, one plant of this for the centre; then Gem, a fine lavender flower, and Caroline Neville, white with mauve bars in the flower; the Queen, a splendid flower of a fine lavender colour, and scented; and as many more as you please, but those named will each form a lovely six for half a dozen five-feet beds. The beds should be round and a little raised above the level, forming a slight mound; *i.e.* a good convex over the surface. (See 'Shape of Beds.')

In the management of the Clematis as a bedder, the beds must be well raised so as to ensure a good drainage. The leader branches of the plants should be distributed regularly over the bed as they advance. The earliest of these will ripen and soon become quite permanent, and ultimately the whole surface of each bed will be covered with these permanent branches, and then they may be pruned similar to a Grape vine, in the month of March or April, or just as soon as any signs of life appear. The beds will soon be completely filled quite up to the edge, and finally be one mass of fine handsome foliage and flowers of great splendour and of permanent endurance as plants. Here then we have economy combined with the climax of beauty.

THE HONEYSUCKLE.—Next comes the tribe of Loniceras as bedding plants. The tribes of Honeysuckles are great favourites and are generally known as climbers, not as bedders, for which I am quite convinced they are specially adapted. As climbers they are frequently pruned too much in the endeavour to get a full crop of flowers, but as bedders this may be avoided to great advantage. Some little thinning out, and some slight cutting back may be needful, but no severe pruning is at all necessary. The choice of sorts is important, and in this matter take Fragrantissima, Periclymenum, and Xanthocarpa, or common English Honeysuckle, which is abundant in flower, hardy, and delicious in fragrance. The first is a splendid and sweet variety.

For those who have no walls or other means of growing Honeysuckles, plant one of those named above in the centre of a five feet diameter round bed, letting the bed be raised well above the common level and covered over with good-sized stones, over which the Honeysuckle will run and do well; train the leaders regularly over the surface of the bed, and when it gets well filled with leaders, prune back some of the laterals and leave some nearly full length to flower. Some thinning out of the old leaders will be necessary now and then, and the laying in of some of the well-ripened young wood to succeed them. Thus a constant annual good bloom will be ensured. One or two beds of these will impart a fragrance to a parterre not to be equalled by anything else. Any good common garden soil not too rich will do for these Honeysuckles.

THE PYRUS JAPONICA.—Generally this old favourite is grown on low walls, where of course it flowers earlier than it would if planted elsewhere; but it is not at all tender so as to require a wall on which to flower; for it is as hardy as the Hawthorn. I here propose to put one good plant in a five feet diameter circular bed of good common soil, training out the leaders over stones laid on the surface to raise it above the soil a little, merely to give prominence to the flowers, and when the bed gets well filled with wood, which may all remain as fast as it is formed, merely pegging it down, a more floriferous and showy permanent bed cannot be had. It will be said, and perhaps with propriety, that for a greater part of the year there will be nothing but leaves to be seen; I admit this, but here is the remedy. As the plant is placed in the centre of the bed, there will be no roots to interfere with the insertion of a few plants of Petunias in the month of May, which can be trained over the branches of the Pyrus for the summer without injury, and which will at the same time form a pretty object.

THE LATHYRUS, SCARLET AND WHITE.—Few persons would think of using the Everlasting Pea for a bed. Be it remembered I do not refer to the one called Grandiflora, a splendid large-flowered kind, but to that magnificent sort which flowers in such amazingly profuse clusters. This is no doubt one of the most beautiful flowering dwarf climbers extant; and no one can adequately appreciate this plant (especially the scarlet one) as a permanent bedder unless they see it as such. I am fully convinced of its real value as a bedder; one plant of each sort planted in the centre of a five feet diameter circular bed will be quite enough to fill it, and will form one of the most splendid beds possible.

The soil should be of a good light nature, and the bed well drained and raised from six to nine inches above the level, having a good convex form. The growth must be pinned down as it advances, and spread about the surface so as to cover it all over alike, and when it flowers they will be all thrown above the foliage, forming a complete mass, and surpassing everything else for splendour. This single bed, or the beds containing these Peas, may be planted with the Snowdrop, Crocus, Star of Bethlehem, &c., which will come up in the spring, then flower and die off before the Pea will have made much growth. The Pea will die quite down before the winter, when it must be cut off and merely a top dressing of some leaf-mould laid on the surface, a few inches thick, previously pricking the surface up an inch or two; this is all that will be required. If the weather should prove severe accompanied by frosts, lay a few spadefuls of cocoa-nut fibre, or old tan or sawdust, over the root. The plants may be raised from seed. (See 'How to Raise Seedling Plants.')

THE VINCA.—As bedding plants these require no comment. The large blue and the white are splendid things, and there is a very fine variegated sort which makes a beautiful bed. Any good common garden soil will do for them. The bed should be raised considerably above the surface level. Twelve plants will be quite enough to fill a five feet diameter bed. They may be raised from seed: a shilling paper of each sort will raise an abundance of plants. (See 'How to Raise Seedlings.')

THE RUBUS OR DOUBLE BRAMBLE.—Some may say, 'A Bramble for a bed!' Well, I know of few hardy moderate climbers better suited for a permanent bed than Rubus rosea flore pleno. This variety bears double and handsome flowers, like miniature Roses, in abundance, and will make a very uncommon and good bed: one plant will be enough for a five feet diameter bed.

Here then is a garden possessing a new feature, yet quite practicable, containing but a limited variety, which however may be increased to any extent from the six varieties of the Clematis named; two of the Honeysuckle; two of the Pea; one Pyrus japonica; two varieties of the Vinca; and one of the Rubus—to as many more among the Clematis, Honeysuckles, &c., as may be desired. So that the number of beds may be augmented, say, from fourteen to twenty-eight even, with advantage; for there certainly cannot be found anything among all our plants better suited for a Multum-in-parvo flower garden than the Clematis. These are acknowledged to be superb climbers, and may be so as bedders as well.

It will be observed that I have generally adhered to the principle of the one variety system for a bed of everything, because I always notice that the effect is more sensational, and consequently more satisfying, than when in mixtures, and at the same time such a course is always attended with much less expense and trouble.

CHAPTER II.

A PERFECT CHANGE IN THE KIND AND ECONOMY OF THE GARDEN.

In none of the foregoing remarks concerning the garden can anyone charge me with extraordinary expense. The last-mentioned idea in regard to it may be carried out for much less than some ladies give for a single dress, which may be of no use after a short time. I earnestly wish that the beautiful art of gardening even now had as much influence with the lady as the silk mercer has—not that these things are despised by very many; but what among our pleasures can or should supersede the love of a good garden, especially a flower garden? The last-named idea for a permanent garden of much beauty would cost about 25*s.* for plants if they were bought, and the same scale of operations were kept to; and which would require no more planting for many years. But as there may be some who might still desire greater economy, I propose another class of flowers for the Ladies' Multum-in-parvo Flower Garden.

In doing so, I shall give only such lists as are guaranteed to possess first-class features in quality as well as in duration, together with some cautions. Lists are now made extremely comprehensive, and everything in the shape of a variety is enlisted, while many of the things included are nothing more than parts of a variety.

ANNUALS are, many of them, superb things; but it is rare to see them in such perfection as they are capable of attaining to under good culture. I am quite aware that a good deal of difficulty attends amateur gardening, especially lady amateur gardening; but yet there are some ladies who are even better gardeners than many of those who make a profession of it. Nor do I see any reason why it should not be so; on the contrary, I do see abundant reason why it should be quite so. I have a daughter who can excel most gardeners in growing pot plants. I will here give reliable directions for furnishing a flower garden with annuals which cannot fail to give the utmost satisfaction.

THE ASTER.—The Victoria, a handsome dwarf and abundant flowerer—twenty-four plants will fill a bed three feet in diameter. There is a white and also a red variety. If the bed is filled with the white and a ring of the red outside, a beautiful effect will be produced, and *vice versâ*; there are numerous other kinds, all beautiful; but the Dwarf Victoria Aster is no doubt the best. The soil of the bed for these should be light, rich, and well drained, consisting of good common garden soil with a good portion of old pulverised manure or leaf-mould and some sand in it, and the bed should be well raised above the level. The seed should be procured in the beginning of March, and be sown thinly in seed-pans filled with sifted leaf-mould two parts, maiden soil one part, and fine sand one part, set in a warm greenhouse or frame, where the temperature can be raised by keeping it closed till the seed is up, when air should be admitted daily.

The method of sowing is this: sift the soil through a quarter-inch mesh sieve and well mix it; then place a crock or two over the holes in the pans and a layer of the coarse siftings over them, then fill the pan up to the rim with the compost. Knock the pan a few times on the bench to settle the soil down, level, and press it all over with the ends of the fingers moderately, make a smooth surface and sow the seed evenly over it, and then cover the seed a quarter of an inch with some of the fine soil, and set in the house, but give no water for some days. When the surface of the pan is dry give a slight watering with a very fine rose water-pot.

When the Asters get from four to six leaves, prick them off two inches apart into other pans, and in the month of May towards the end, plant them out where they are to flower, carefully lifting them from the pans with a ball of earth, and plant them with a small trowel. The soil of the bed should be well prepared and made fine the day the Asters are to be planted, and not much before. If the weather is dry and hot, plant them in the evening and give them water. This will be much in favour of them starting well, a fast and free growth being necessary to obtain fine flowering plants.

THE STOCK.—There are several classes of this tribe, but for annual summer bedding there are none I think to equal the double German Ten Week Stock. It will appear too partial, and perhaps not fair in a work like this, for me to mention any special house where these are to be had; but if I speak from experience (and I must do so), I can attest that the best assortment of the German Ten Week Stock I ever had came from the firm of Messrs. Lamoureux and Co., of Plymouth. I remember having six varieties from them—a scarlet, purple, white, crimson, yellow, and one other colour; and there were fully two out of every three, I believe, as double as a Rose; nor could anything exceed the character and beauty of these Stocks. I do not at all doubt but that equally fine sorts can be had of other good houses, for of course these were imported, and from the same seed growers as other houses get them.

Well, then, my advice is, apply to those seedsmen who import the seed in the original sealed papers; get it in February, and sow it at the end of the month, or in the beginning of March, in seed-pans, as for the Aster, and in precisely the same manner, except that the compost may be a little heavier, *i.e.* it may consist of one part leaf-mould and one part maiden soil, with a little fine sand added. To be successful with these, they must be raised in a slightly elevated temperature as for the Aster, and if sown in seed-pans thinly, they may remain in them till they are planted where they are to flower; or, if a cold frame is vacant and seed-pans are plentiful, they may be pricked off into them, two inches apart, and finally transplanted into the beds, eight inches apart. The ground should be good, being moderately solid and firm. A most unique bed of these may be made by a little management of the colour. The purple Stock, for instance, grows taller than most others of the Ten Week Stocks; these may therefore be planted to fill up the centre of the bed. Then a ring of scarlet, and then a circle of the double white as an outside belt, thus giving a radiated effect to the bed.

Those who do not care for this style may plant pretty closely a bed of each colour, which, if done well, will be really handsome. Get a one shilling packet of each colour, which will produce more plants than will be actually required if sown as directed; but if sown in the open ground as early as March or even April, the probability is that you will get none; and it is necessary to sow the seed early to get a protracted display of flowers. These Stocks are easy for any amateur to manage. The seed must not be covered more than a quarter of an inch with fine light compost, and no water must be given for some days.

THE PHLOX DRUMMONDI.—I need not describe this annual, well known to be one of the most beautiful things for bedding purposes. But as few lady amateurs seem to succeed with it, I beg to offer a few remarks upon the best way to raise it and grow it. Get a one shilling packet of the best mixed seed as imported, which will contain not less than six varieties. Do this in the beginning of March, and sow it in seed-pans, and in the same kind of soil as I have recommended for the Aster, and in precisely the same way, with the same temperature, water, &c. As soon as the seedlings are fit to handle, *i.e.* when they possess from four to six leaves, prick them off into other seed-pans. Give them some water and let them remain in the frame, or on the shelf in the greenhouse, giving air daily till the middle of May, for the southern counties, and until the end of the month for the midland and northern counties; when they may be planted out into nicely prepared beds of good common garden soil, with a good barrowful of fine leaf-mould added, and half a barrowful of pit sand well incorporated with the original soil. Let the bed be raised to a good convex form, and be made fine by raking. (See 'How Ladies should Rake.')

As soon as the plants begin to make an inch or two of growth, nip out the point of the leader; this will induce a branching habit; and as the laterals progress, peg them down over the bed with small hooks cut from the hedge. It is necessary to get the Phlox Drummondi as early as possible, because this annual will continue a long time in flower, which is lost when it is sown late. To sow the seed in the open ground is folly, and to sow it where the temperature cannot be raised is not much better. Let no one purchase a packet of the Phlox Drummondi with a view to sowing it in the open ground. Glass is now so cheap that no one, however limited his or her means may be, need be without a cold frame, which, if set in a southern aspect and kept close for a few days, will be all that is required to raise the temperature sufficient to grow any of these half-hardy annuals without any heating material, merely raising the floor in the frame a foot or so by a layer of sawdust, tan, or cocoa-nut fibre refuse, &c. (See 'The Ladies' own Miniature Nursery.')

THE ZINNIA.—The Zinnia is seldom to be found growing in the gardens of amateurs, and when some persons see it, they are at a loss to know 'what this splendid flower is.' Poor, old and neglected annual! It is a thousand pities that you should be such a stranger in these days of intelligence, when the love of what is really beautiful is so eagerly sought after! What the Stock and Mignonette are among scented flowers, the Zinnia is among the handsome ones.

This annual is equal as regards the duration of the flower to any known greenhouse bedding plant. To get the full advantage of this protracted flowering quality, the seed must be sown in March, and not later than the middle of that month. Sow it in the same way as for the Phlox Drummondi, and give it a little mild heat if at all convenient; if not, set the pan containing the seed in as sunny a part of the house or frame as possible, and keep it close till it is fairly up, when air may be admitted daily. Prick off the young seedlings when they have made from four to six leaves, and finally transplant them into beds one foot apart, towards the end of May. The bed should be five feet in diameter, and the soil should be good and light. As the plants advance in growth, carefully bend them down, and peg them as for the Phlox; thus a continuous bed of flowers will be had for one shilling (the cost of the seed) which will be of a superb quality.

THE SALPIGLOSSIS.—Here is an old annual that would if properly cultivated make many of the new things hide their diminished heads. The Salpiglossis resembles the ordinary single Petunia in its outline, but is of a far superior richness as regards colour. The varieties comprehend every shade from nearly black to a light yellow or straw colour; and at the same time they possess in each shade a qualification of colour unequalled in depth and richness by every species and variety of flower. It is impossible for pen to convey anything like an adequate idea of this genus, nor would it be easy even for an artist to represent them. Suffice it to say no good garden should be without a bed of good mixed Salpiglossis.

Get a one shilling packet of the best mixed seed from some good house in the month of March, and sow it as for the Zinnia, except that the seed being very fine must not be covered, when sown, more than the thickness of a shilling piece; water must be carefully given it with a fine rose water-pot. As soon as the seedlings are large enough to handle well, prick them off as for the Phlox, and finally plant them out into a bed of good fine soil, similar to that for the Zinnia. Plant them out nine inches apart in the month of May, and they will continue to flower splendidly till the frost comes; and a more desirable or better plant either for bedding display, or for cut flowers for vase work, or for the table, cannot be found, for they will continue good for a long time, and even half-grown flower buds will develop themselves after they have been cut several days.

THE PETUNIA.—The Petunia, treated as an annual, causes but little trouble, and will flower freely in almost any kind of good soil. A packet of the best mixed seed at the cost of one shilling, obtained at the end of February, should be sown the first week in March in seed-pans thinly over a surface of fine soil, as for the Salpiglossis, and in precisely the same way, and set in a greenhouse or frame. When the seedlings are fit to handle, prick them off, and finally plant them out about one foot apart into a bed. A shilling packet will raise more plants than will be required to fill a five feet diameter bed, will give but little trouble, and will keep up a display of flowers till the frosts come.

THE PORTULACA.—It is not very often that we see the Portulaca grown well, and there are various reasons for this. Sometimes the weather is much against success; and sometimes the plants are neither handled well, nor the soil properly prepared in the bed before they are planted. I am not going to speak of my success boastingly, but I have not seen a bed comparable to one I once had of this beautiful annual. I managed to pot the small seedlings off singly into three-inch pots, I think, and when I planted them out, I turned the plants out ball entire into the bed, so there was no check. The soil was well prepared before planting, and consisted of good common garden soil with a large proportion of fine leaf-mould added to it, together with some sand. The bed should be elevated considerably above the level, so as to ensure a perfect drainage about the neck of the plants, for it is here that failures ensue, from too much wet collecting about the main channel of the plant. They should be planted ten inches or one foot apart, and they will soon meet if they go on as they should. The bed must be exposed to all the sunshine possible. The seed should be sown as for the Petunia, and treated precisely in the same manner, except that the Portulaca should be potted off singly, as previously described. A sixpenny packet of the best mixed seed will produce as many plants as may be required.

THE BRACHYCOME.—This contains two distinct colours, a fine blue and a pure white. Both are good for bedding. My way of growing them is first to sow the seed thinly under a hand-light on a compost of fine sifted leaf-mould two parts, maiden loam one part sifted, and one part fine sand, well mixed. Make a bed with this four inches deep on a sheltered south border, make the surface level, and mark the size of the hand-light on it by pressing the light on it, then sow the seed thinly over it, and cover it with fine soil as thick as a shilling, and set the light on. Give no water for two or three days; then sprinkle the surface with a very fine rose waterpot—one that has a rose with holes in it as fine as a pin's point, or with the dewpot (see 'Dewpot'), and shade the seed a little during the middle of the day if the sun is hot; sow the seed in March. As soon as it is well up give air daily by tilting the light, and as soon as the plants are strong enough to handle, prick them off into a nursery bed of fine soil two inches apart; shade them for a few days during midday, and finally transplant them out into the flowering bed, which should not be more than three feet in diameter. This should be composed of a soil like that used for sowing the seed in. The plants should be carefully taken up with a ball of earth, carried to the bed, and let into the soil with a small garden trowel, six inches apart, and the soil carefully put up to the leaves and gently pressed to the plants. If the weather should be dry, give them a good watering to settle the soil to them; and if the plants go on well, which they should do, there is nothing that will better repay the little trouble they give, for a splendid display of flowers will result for a long time. A threepenny packet of seed of each colour will give plenty of plants to fill one bed with each.

THE JACOBÆA.—The double crimson Groundsel is a beautiful thing for a small bed in a sheltered spot. It is rarely that we find it used now for bedding, but there are few things that make a richer looking bed than this. It may be raised from seed, or propagated by cuttings. From seed, there is some uncertainty about getting all the plants with double flowers; but if the seed is procured from some good reliable seedsman, who either saves it himself or procures stocks from reputable seed growers, confidence may be placed in the quality of it. Sow it in pots or small seed-pans in March, and place it in a slight heat: it should be sown in soil similar to that recommended for the Zinnia &c. Prick off the seedlings singly into three-inch pots as soon as they are an inch and a half high, and set them in a cold frame, or in the greenhouse. Nip out the tops of the plants to induce a bushy habit; and plant out seven inches apart in May, in good light soil. A one shilling packet will produce plants enough to fill a five feet diameter bed. The double Jacobæa is a superb and continuous flowering pot plant fit for the conservatory.

THE MESEMBRYANTHEMUM CRYSTALLINUM.—There are many ladies who would be very glad to possess a few specimens of this remarkable and useful plant, but it often happens that they cannot be had for money, and there are not many lady amateur gardeners who can raise it from seed. Not that this is difficult, but they fail nevertheless from one cause and another. Sometimes the seed is not vital, and sometimes, in fact very frequently, it is not sown carefully enough. It should be sown thinly in a seed-pan filled with the same soil as has been recommended for the Portulaca, covered in the same manner, and treated generally in the same way.

When planted out, a similar bed must be made for it, where it will luxuriate to great perfection if exposed to the sun, when it will surpass everything in crystal splendour, and will be found one of the most useful plants for cut flowers, for garnishing dessert dishes, and for table vase work. A sixpenny packet will raise a sufficient number of plants to fill a five feet diameter bed: twelve plants are quite enough.

THE MARIGOLD.—I am now treating entirely on the French varieties, as these are the most beautiful; and if the seed is from the double French Unique, there is nothing in my opinion more handsome or better deserving of a small bed in the best part of the parterre; the finest double striped sorts are as handsome as the best Persian Ranunculus. The seed should be sown in pots or seed-pans at the end of March, precisely in the same way as for the Zinnia, pricked off in the same manner, and finally planted out nine inches apart. They will continue in flower till the frost prevents them from doing so. Some object to them on account of the rather strong smell they emit when handled, but the beauty of the flower more than compensates for that.

THE LOTUS JACOBÆUS.—This is a variety of the Bird's-foot Trefoil, and not the Indian Lotus flower, which is a different thing altogether. The Lotus Jacobæus comes from the Cape de Verde Islands, and is a small, erect-growing, free-flowering plant with flowers nearly black, and in some cases quite black. It is a very neat and remarkable flower for a pot in the greenhouse, and will continue in flower for a long time. It may also be used for small beds, and can be raised from seed sown in pots or seed-pans, as for the Phlox, and treated in the same way.

As soon as the seedlings are large enough to handle, pot them off into three-inch pots, using the same soil as for the Phlox with a little good peat added to it. Be careful of giving too much water at first, and eventually turn them out at the end of May, when they will make a beautiful and uncommon bed. A sixpenny packet of good seed will produce plants enough to fill a bed three feet in diameter, and then there will be some plants to spare.

Here then are twelve choice half-hardy annuals or plants, all of which may be bought for about eleven shillings if raised from seed, and which may be raised by anyone. They will moreover fil a good sized flower garden with beauty during the whole of a summer, and be quite equal to most things and superior to some which may have cost three or four times that amount.

CHAPTER III.

A STILL FURTHER REDUCTION IN THE EXPENSE OF THE FLOWER GARDEN.

BEAUTY combined with economy is now the order of the day as regards the garden. In view of this I shall proceed to devise a still cheaper way of obtaining this end, and in doing so I make choice of none but what will be good among the hardy annual flowers. In the first place, it is necessary above all things to see that all the flower beds where the seeds are to be sown are properly prepared beforehand, for in nine cases out of every ten a want of precaution on this head is the cause of partial or complete failure, and the fault is charged upon the non-vitality of the seed, and of course the seedsman has to bear the blame. It is no doubt true, that a great deal of flower seed is non-vital from the fact that large stocks are laid in annually and are not sold out; and if this is the case, it is a good deal against sowing flower seeds in any soil not judiciously prepared.

Soils vary greatly, and should be made a study of for some months before sowing the flower seed in it. Supposing that your flower beds consist of a close and tenacious soil; then dress them heavily with leaf-mould, old tan, light peat, cinder ash, burnt earth, and old pulverised bog earth, &c.; let any of these be put on the beds in a good six-inch dressing, and be rough dug in during the month of January or February. Turn up the ground with a fork quite roughly, and let it lie so till the end of March, when it may be forked over again and broken a little, leaving a finer surface; but by no means rake the surface yet. Let the soil remain to pulverise for two or three weeks; then about the middle of April, on a fine dry day, having all the seeds at hand, commence to make the surface of each bed fine according to the nature of the seed to be sown, concerning each of which I shall make special remarks as I proceed.

Do not prepare more than one or two beds at a time before sowing the seed if the weather is at all showery, for sometimes a shower of rain will so affect the surface of the soil after it has been partially or quite made ready, and before the seed can be really sown, that it cannot be put in for many days, and even then the soil is so much changed in temper and condition that often it will not germinate so well as it would have done if it had been sown a day before any rain had fallen. This will appear a matter of small importance to some, and so it may be with some particular soils, but I am now referring to heavy soils. With such these observations are of the greatest importance; therefore choose settled and fine weather in which to sow the seed, if it is possible.

THE SAPONARIA CALABRICA.—A well-known hardy and continuous flowering annual, of a red colour. It may be sown on the surface of a five feet bed of good soil, the surface of which should not be made too fine before sowing the seed. If it is made as fine as for large Peas or Mazagan Beans, it is quite fine enough for all annual seed of the same degree of strength as this. The whole surface of the bed should be made even, and arranged from the first as it is intended to be. Then sow the seed thinly over it, and with a nail-tooth rake beat the soil upon it, holding the handle of the rake nearly upright, and with the teeth of it beat the soil in upon the seed, which, if half dry and tender and the rake is well pressed, will break the small granular surface upon the seed and cover it sufficiently without any further effort. No more raking must be done. In all cases of seed sowing, no raking to and fro is ever necessary if the surface of each bed is first properly prepared. I have been a little prolix on this head because I know that generally a great deal too much of this is done by all persons, especially by amateurs, which has a bad effect, as it buries the small seeds of some kinds much too deeply, and also leaves a large proportion of those of a coarser sort upon the surface.

As a rule there are about four degrees of common flower seeds, *i.e.* four sizes in this category. The Lupinus, Nolana, and Nemophila may be taken as one. These should all be sown on the surface, and heeled in as we call it, *i.e.* chopped into the soil with a fine-tooth rake in a regular way; thus the seed will fall into the surface deep enough through the motion of the rake by chopping and slightly pulling it to you at each chop, beginning at the edge of the bed, and proceeding regularly forward all over it.

The next size smaller is Sultan, Calendula, Chrysanthemum, Limnanthes, Larkspur, and Dianthus. The surface of the bed may be a little finer for these, but the heeling in with the rake may be the same, except that it must not be quite so heavy.

The next size smaller consists of the Saponaria, Calliopsis, Collinsia, Eutoca, Matthiola, &c. These may be sown over a fine surface, and then be lightly raked in with a stiff arm and a steady hand, not bearing on the rake too heavily, and finally and lightly drawing off the coarser stuff from the bed.

The next size smaller consists of the finest of seeds, as the Campanula, Gilia, Gypsophila, Viscaria, &c. These must be sown on a perfectly fine surface on a dry, fine and still day, when the surface is dry or half dry. Sow them evenly and not too thick, and then with a fine-tooth rake go over the surface where the seed is sown, and holding the handle of the rake nearly upright, proceed to work the seed in by merely carefully pressing the teeth of the rake on the surface, and giving it a slight push backwards, not at all like a stroke, but a very slight remove from a dead knock. Thus these fine seeds will be buried quite deep enough. No after raking must be done to this last division of seeds, nor to the two first-named classes, but leave the surface of the beds as they are from the insertion of the seeds. Of course some deviation from these rules may take place in some cases, as will be seen by the treatment of the Saponaria; but as a safe rule the directions for each division may be adhered to.

THE LUPINUS NANUS (blue and white); L. AFFINIS (blue, white and purple).—Generally these are described as growing half a foot high, which, however, is not exactly the case; for they will grow a foot high, at any rate if the ground is at all good. Nanus is a fair specimen, and makes a good dwarf bed. A threepenny packet of seed will sow a five feet diameter bed. Sow it in April. The ground should be of a good common soil.

THE NOLANA PARADOXA, ATRIPLICIFOLIA AND A. ALBA. —All most beautiful Convolvulus-like flowers of a trailing and free habit. I know of few hardy annuals to equal these Nolanas. They are seldom seen in our gardens, but I cannot tell why, for they are easy to grow, free to flower, and as handsome as a Major Convolvulus—in fact more handsome. The bed should be in an open space, and the soil of a good rich nature. Sow the seed as directed under the division, in April. A sixpenny packet will sow a five feet diameter circular bed quite thickly enough.

THE NEMOPHILA INSIGNIS.—This is the favourite among Nemophilas, and as a genus there is none that can match it for striking diversity of flower—even a whole flower garden might be filled with them, and be more interesting than any other class of flowers one could name. It is impossible to describe a garden of this flower, supposing all the most conspicuous varieties were included, which vary from a perfect black to a muslin white.

The Nemophila seed may be sown in the autumn to flower early in the spring; but for the summer flower sow it in March or April in good ground. A sixpenny packet will sow a five feet diameter circular bed, which will be very effective as a mass of flowers. The bed should be raised fully six inches above the level in the middle, so as to form a good convex.

THE CHRYSANTHEMUM TRICOLOR.—These are splendid annual sorts, and quite a different thing to the Indian and Pompon varieties. They are among our best hardy and showy summer flowers for beds, growing about one foot six inches high. I know of nothing that can surpass the annual Chrysanthemum in a bed. Dunnetii is a fine double white, Burridgeanum purple, white, crimson and pure yellow—very handsome. Get a sixpenny packet of each sort, which will sow beds each five feet in diameter; sow the seed in April in good ground.

THE CALENDULA PONGEI FLORE PLENO.—Double white Marigold. This is altogether a different thing to the French varieties. The Calendula is a division of the Marigold, of which the officinalis is a variety. The French Marigold is called Tagetes as a distinction. This division consists of very handsome things as bedding annuals. A sixpenny packet will sow a bed five feet in diameter. Sow the seed in April in good ground.

LIMNANTHES DOUGLASII.—This annual is one of the most profuse flowerers, of a dwarf habit, and very hardy. It will seed itself and come up every season; a bed of this makes an excellent show. Its colour is a pale yellow with a white edge. Sow the seed in any good common soil in April. A threepenny packet will sow a five feet diameter bed well; if the plants are too thick, thin them out to six inches apart.

THE LARKSPUR.—This annual requires no description; yet I may just say that a bed of the double dwarf German Larkspur, sown on good ground, may be said to exceed every other hardy annual in richness, beauty and diversity of colour. The seed must be sown where it is to flower, for Larkspurs do not transplant at all well. The ground in which the seed is to be sown should be of a rich nature, *i.e.* a soil that will easily crumble to dust. The bed should be well prepared with old decayed manure, or with horse droppings containing some sand from the roads. It is a good plan for those who intend growing these annual flowers, or indeed any other flowers, to give some boys a commission of, say, sixpence per barrowful for horse droppings swept up from the roads during the dry weather, and to let them be laid in a compact heap some months before the beds or borders are dug. If these droppings are gathered in the summer and autumn before they are wanted in the following spring, and are laid up in a tight and compact heap, it will form the best manure it is possible to have for flower beds, especially for the Larkspur, Stock, Dianthus, Pink, Carnation, Auricula, &c. The seed may be sown in April on a fine day (see each division, and 'How to Sow'). A one shilling packet of the best double mixed seed will sow a five feet diameter circular bed. There is nothing like the circular beds. (See chapter on 'Shape of Beds.')

THE DIANTHUS DOUBLE CHINENSIS.—Both the single and the double sorts are very handsome and hardy annuals. They are really perennial, but I have found them do much better treated as annuals. Sow the seed thinly where it is to flower, in the month of March and in good ground. A one shilling packet will sow a five feet diameter bed, and if the seed is good the plants will be too thick. I scarcely need describe the Dianthus; suffice it to say that the double kind is quite a unique thing as a bedding plant, and that neither pen nor art can pourtray a bed of the best mixed single Indian Pinks when in flower; undoubtedly they surpass every species of flower for exquisite change of colour.

THE EUTOCA VISCIDA.—This annual is rather shortlived, but as a flower few things can match it as regards splendour of colour as well as its markings. When ladies have seen it in my garden they have been struck with wonder at the beauty of the flower and have asked 'What is this lovely thing?' The colour is an uncommon intense blue with white muslin-like markings. The plant grows about six inches high, is erect, and has branches free of flower. Sow the seed in a three feet diameter circular bed in the month of April. A threepenny packet will sow such a bed.

THE GYPSOPHILA ELEGANS AND MURALIS.—This last is a beautiful diminutive flower and the plant is of a dwarf habit. It flowers very abundantly and for a long time, but should be sown on elevated beds. The other is an abundant and handsome flowerer, possessing a perfume. A five feet diameter bed has a beautiful and delicate effect when in full flower, and continues a long time in perfection. It flowers so abundantly that no foliage can be seen. The seed is very fine and must be carefully sown. (See the fourth division of 'Seeds and how to Sow them.')

THE CAMPANULA PENTAGONIA.—This is a remarkably free-flowering dwarf and hardy annual which makes a very fine bed when in bloom, with a colour not common among flowers, being of a peculiar deep purple or violet, and which becomes conspicuous among light and white flowers such as the Calendula, Godetia, Larkspur, &c. The first time (now many years ago) I grew this annual, I was quite struck with the remarkable and curiously dazzling reflective character of the mass of flowers, and I at once considered it an uncommon thing among annuals, comparable only to the blue Venus's Looking-glass, which has a similar effect; but this Campanula carries a much larger flower and in a denser mass, so that its reflective effect on the sense is greater. A threepenny packet will do for a bed five feet in diameter, but great care is needed in sowing the seed evenly over the surface of the bed, which must be made very fine beforehand, and should be of a good quality. (See 'How to Sow Fine Seeds,' under the fourth division.) Sow the seed in the month of April.

THE VISCARIA.—These are among our best annuals, and a bed sown with a good mixture will equal one of Dianthus in regard to diversity and beauty. Sow the seed in the beginning of April, in good soil well prepared. A sixpenny packet will sow a five feet diameter bed. They grow about one foot high.

THE SPHENOGYNE SPECIOSA.—This is really the only one of this genus worth anything. It is one of the most showy hardy annuals extant, and requires an open space where the sun can come to it all day. I wish I could give a true representation of this flower in a circular bed, as it is seen on a bright sunny day when in full bloom, with its orange rayed flowers having a dark eye. This and Calandrinia speciosa alba, Linum grandiflorum coccineum, Mesembryanthemum tricolor, and Venus's Looking-glass, on a bright sunny day in July, grouped together, would eclipse all the carpet bedding and every other class of bedding in existence, and would induce some persons to imagine that they had arrived in a new country. I am not saying too much when I assert that there is nothing new or old among flowers for beds comparable to those I have just named as a display. A sixpenny packet of Sphenogyne speciosa will sow a five feet diameter bed, and produce plants enough to fill it to perfection if the seed is good.

Care is necessary to well prepare the soil beforehand. Sow in the middle of April on a fine still day.

THE COLLINSIA BARTSIÆFOLIA AND MULTICOLOR.—Two very good hardy annuals for masses in small beds. These are most profuse flowerers, and of a handsome colour. They are quite hardy and may be sown in any good common garden soil well prepared beforehand. Sow the seed in April. A threepenny packet of each will sow a bed four feet in diameter for each sort, *i.e.* two beds with one of each sort. Thin out the plants, when they are two inches high, to about six inches apart if they are too thick, and they will then branch out and flower all the finer.

THE MATTHIOLA BICORNIS, OR NIGHT-SCENTED STOCK.—This annual is not a handsome thing at all, but yet it is well worth a place in the flower garden on account of its perfume; a small bed three feet in diameter will scent a whole garden of a common cottage or villa size, and the fragrance is most agreeable. This is given out in the evening when the flowers expand. The seed should be sown in good ground in the month of March or the beginning of April. A sixpenny packet will sow a bed well. The surface of it should be made fine, and the seed sown evenly all over it, and then it may be lightly raked in when the soil is dry or half-dry.

THE SULTAN.—Purple, and there is also a white one. The purple is, however, a fine and sweet-scented annual, bearing heads of flower similar to some of our fine thistles, but the fragrance is of a delicious and agreeable kind. The seed may be sown in good ground in the month of April.

THE CALLIOPSIS CORONATA AND DRUMMONDI.—Two superb dwarf-growing and free-flowering hardy annuals, each well deserving of a place in the flower garden. A five feet bed of each of these will make a very fine display if it is well done. A threepenny packet will sow a bed of each if the seed is good. It may be sown in April, about the first or second week, in good light soil. (See fourth division of 'Seed and how to Sow.')

THE GODETIA ROSEO-ALBA AND WHITNEYI FLAMMEA.—Two superb sorts. These Godetias are magnificent things for display, and they are extraordinary flowerers, being showy and lasting a long time in flower. There is nothing among hardy annuals better adapted for a bed than they are. A threepenny packet of good seed will sow a five feet diameter circular bed. Sow in the beginning of April.

THE ROSE CAMPION, CŒLI-ROSA AND ALBA.—Handsome flowering annuals fit for a place in the garden. A five-feet bed of each of the above will make a fine show and continue for a long time in flower.

BARTONIA AUREA.—This is a very showy annual of an extraordinary floriferous character, and well fit for a good bed. The flowers are of a rich yellow, as the name implies. A sixpenny packet of seed will do for a five-feet diameter bed. Sow in good common light soil in March or the beginning of April.

THE CONVOLVULUS MINOR.—These are too well-known to require any description; suffice it to say that a five-feet bed of the new dark purple-striped will eclipse every species and variety of flower if sown in good soil and in an open sunny spot, not sown too thick. A sixpenny packet of seed will sow a bed quite thick enough. Sow in April.

The seed belongs to the first category enumerated to be sown broad-cast on coarse ground. Knock the soil in upon it with the rake, or 'heel' it in with the rake if the surface of the bed is fine. (See 'How to Sow Annuals,' under the head of this category.)

THE PLATYSTEMON CALIFORNICUS.—A beautiful and free-flowering annual with handsome individual flowers. Sow it in good soil in April.

THE SCHIZANTHUS RETUSUS AND OCULATUS GRANDIFLORUS.—Two superb half-hardy annuals of great merit as bedding plants. Retusus is a very choice thing for pots. (See 'What to Sow for Pot Plants.') The Schizanthus are a very free-flowering and showy kind of annuals well adapted for beds; in fact, they make much the best show in that form. Oculatus grandiflorus is a fine sort of a more recent origin than some of the others. A sixpenny packet of seed will sow a five feet diameter bed, which will not be at all too large to obtain a good effect. The seed belongs to the fourth category in this list I have given, and must be sown on a fine surface, and merely lightly rubbed in with the back of the rake, or spade; or it may be buried by holding the rake-handle nearly upright, and lightly pressing the head of it upon the surface after the seed is sown, very slightly driving the rake backwards as you proceed over it. No further raking must be done to such fine seeds, for they will be buried quite deep enough by these means if the soil is either half-dry or quite dry.

Thus we have again twenty-four fine hardy annuals that will furnish a good-sized flower garden with an unsurpassed floriferous display at a cost for seed not exceeding eleven shillings.

Twenty-four choice varieties of the best hardy annuals, in bulk sufficient to sow a whole garden, one five feet circular bed of each sort, for 11*s.*! Anyone who doubts this may please apply to the writer, who will be glad to supply them under a warranty, and any lady can sow them *ad libitum.*

PART III.

THE ORNAMENTAL AND CARPET GARDEN, FERNERY, ETC.

CHAPTER I.

PICTURESQUE AND ORNAMENTAL PLANTS.

UNDER this head are included fine foliaged and grand flowering plants for single specimens for the lawn, either forming a whole garden or in conjunction with annuals or perennials intervening, making, if well done, a superb Multum-in-parvo garden. I would just say that such a garden should be well sheltered from the boisterous winds, and that ornamental plants require a little care in order to secure them against the high winds by placing neat stakes to them.

THE HUMEA ELEGANS.—This is a greenhouse biennial of great Grass-like beauty as far as the flower goes, but the leaf has no resemblance to Grass, having more the appearance of a stout Dock leaf. This it loses however as soon as it comes into flower. I have found this plant very useful when grown in eleven-inch pots of one part maiden loam, and one part decayed manure with some sand added, for ornamenting the conservatory and the lawn and terraces in the summer. When they are in full flower and there is a little wind, the reflective effect is very good, as the tall and slender habit of the thin plumes of flower wave to and fro in the wind, reflecting various shades of crimson and rich brown; it is of a much richer colour when set out in the full sun than when it is grown in the shade.

The pots containing the plants in flower may be set out or plunged in the month of June, and should be well supplied with water and liquid manure once a week from the time the flower spikes begin to start into flower. The fine specimens will well repay any little trouble. The Humea continues in flower during the whole of the summer, and gives out a nice fragrance too. It does not, however, flower till the second season after sowing the seed. Get a shilling packet of good new seed, from some noted house, in the month of March, and sow it at once in a wide pot or seed-pan well drained, and filled with fine maiden loam one part, old pulverised manure or leaf-mould one part, and silver sand one part, well mixed and placed firmly in the seed-pan. Make the surface firm and even, and sow the seed evenly over it, and then cover it with fine sifted soil as thick as a shilling piece, and set the pan in a mild heat. Shade the seed a little with a sheet of newspaper, and keep it moderately moist till the seedlings make their appearance, which will be in the course of two or three weeks if the seed is good. The dewpot or a very fine rose water-pot must be used to water the seed-pan containing the seed; but there is nothing like the 'dewpot.'

As soon as the seedlings appear, remove the sunshades and give them air. A fortnight after they are up remove the seed-pan into a cooler spot, placing it in front of the common greenhouse near the glass; pin up a sheet of newspaper in front to shade the young seedlings from the influence of the midday sun till they get hardened. As soon as they have grown one inch high, pot them off into thumb-pots or small sixties—three-inch pots. Continue to grow them, and shift them into six-inch pots as soon as they have filled the small ones with root, when they may be set out of doors in some sheltered spot, where they should be abundantly supplied with water. There let them remain till the end of October, when they may be placed in a pit, frame, or house on the floor. In the February following shift the plants into nine or eleven-inch pots, when they will flower and be utilised as before described. The seed is worth saving. The Humea elegans grows to five or six feet in height.

THE ECHIUM POMPONICUM.—This plant is a rarity, and is one of the most beautiful growing and flowering half woody, half shrubby kinds extant, and moreover not altogether easy to get. I raised some fifteen or eighteen plants of it from seed I once obtained from Messrs. Butler and McCulloch, of Covent Garden, London. I had a description of the species on the packet of seed or in their catalogue, but I had no conception of what the plant really was. However, I thought I would turn one of them out of the pot the second spring after they were raised, as they did not seem much inclined to flower, but during the following summer the one that was turned out of the eight-inch pot (in which all of them had been growing) began to make vigorous spikes of growth from all the shoots (which this plant seems to make in a very symmetrical way), one leader and a regular set of laterals springing from the main stem close to the surface of the ground. These turn up in a regular manner, rising into a most symmetrical, chandelier-like form, carrying a spike of flowers on each, and having foliage close to the ground. The whole thing, if planted in a bed three feet in diameter, of good rich deep ground, on the lawn, in a spot a little sheltered from the cold cutting winds, will form one of the most noble and symmetrical objects it is possible to possess. When fully grown and in full bloom, it will probably be four or even five feet in diameter, circular, and as much as six feet high, with most likely eighteen or twenty spikes of flower on it, each as much as from eighteen inches to two feet six inches in length, and as closely set with bunches of purple blue flowers as a bunch of black cluster Grapes. My plant was an uncommonly fine one, and it was merely turned into the common soil without any ceremony or regard as to the future.

It may be raised from seed sown in pots in the month of March, and propagated by cuttings of the young side shoots five or six inches long, and struck through the summer in a mild bottom heat, inserted in fine peat, maiden loam, and a little sand. It is a fine plant for conservatory decoration, grown in thirteen-inch pots and watered with strong liquid manure once a week when coming into flower, and while in flower. It is shy to bear seed.

THE HERACLEUM GIGANTEUM.—This is no doubt one of the most noble foliaged hardy perennial plants it is possible to have for a lawn. It grows to an immense size, and is grown principally for the leaf, which somewhat resembles that of the wild parsnip. The plant requires a deep soil and plenty of room. The flowers are not good for much; they are, however, produced in large umbels, which are to be admired for their grand construction, having numerous stems forming the umbel, which is large, and stands clear up above the foliage. The whole plant forms a considerable foliaceous proportion ten feet high, more or less, according to the soil, situation, and moisture necessary to grow it well. It may be planted in the centre of a five feet rich bed, where moisture can be supplied to it while it is in a growing state; and liquid manure may be advantageously given it from the time it begins to grow until it is in flower.

The bed itself may be filled with some large plants of scarlet geranium, plunging the pots as soon as the foliage of the Heracleum dies off, which it may do in August, or early in September.

It may be raised from seed sown in March in pots, and set in heat to facilitate the work of germination, and the obtaining of a strong plant quickly. As soon as the seedlings are large enough, plant them out from the pots into some good and fine ground in the open border, two feet apart, during the first summer. The next spring they may be placed where they are to flower.

THE RICINUS.—Castor-oil plant. This genus has a specific standing among fine foliaged plants for its beauty as such, and also on account of the valuable medicinal properties it possesses. All the genus has beautifully cut leaves of various tints—some green, some darker, some a bronzy green, and some of various colours, most of which are to be found described in seed catalogues. They may be planted singly in a good rich bed, two and a half or three feet in diameter, on the lawn, or three plants in a four feet diameter circular bed in a triangle. This will make a grand group of foliage six or eight feet high, if the ground is favourable, and this should consist of good tender loam, rotten dung, and some sand.

They are annuals; therefore they must be raised every year from seed. Get a threepenny packet of seed of each sort—Bourbonensis, sanguineus, and Gibsoni—in February, and sow a small pot of each, covering it with an inch of fine soil, and plunge it in a mild heat in a frame or house. As soon as the plants are two inches high, pot them off into four-inch pots, and continue them in a mild top-heat; shift the young plants once more, as soon as the four-inch pots are filled with root, into six-inch pots, using fine and rich soil. By the end of May they will have become fine plants, of a foot to two feet high and proportionately robust, if they have had plenty of light, water and air. As soon as all danger of the May frosts is over, plant them out as I have described before; strong and neat stakes must be placed to the plants to prevent the high winds from breaking them.

THE CANNABIS GIGANTEA, OR GIANT HEMP.—This genus is handsome in foliage and makes a very fine lawn plant six or eight feet high. One good plant should be placed in the centre of a two and a half feet circular bed of good rich soil. Get a threepenny packet of seed in February and sow it in a pot, and set in a mild heat as for the Ricinus.

THE GYMNOTHRIX LATIFOLIA AND JAPONICA.—Two fine foliaged Grasses of tall growth. Sow the seed in March in pots and set in a mild heat, to get on as for the Pampas Grass.

THE ZEA GRACILLIMA AND JAPONICA.—Two handsome varieties of Maize grasses of strong growth and fine foliage. They are remarkably good lawn plants as single specimens, and may be raised from seed sown in small pots and placed in heat, and afterwards planted out where they are to remain for growth to their full size, which may be as much as eight or ten feet, according to circumstances, such as good ground and a warm place. Sow the seed in March or the beginning of April, and plant out in May.

THE SORGHUM BICOLOR.—A beautiful variegated kind of Grass with a graceful flowering habit. The genus includes many varieties of Millet, and in some parts is cultivated largely for food. It is associated with Maize, and must be sown in pots in March, and grown in single pots like the Zea. To get fine specimens in this country, single plants should be placed in a three feet bed of good soil in the month of May, when they will form beautiful objects for the lawn.

THE DATURA.—There are many varieties of this genus, but the fastuosa Huberiana is perhaps the best for lawn ornamentation. This is of a quick growth, and becomes three or four feet high, bearing white flowers with a lilac margin, which are very large. Three of these planted angularly in a four feet diameter circular bed will form a grand clump, or one strong plant placed in the centre of a two and a half feet circular bed of good tender loam and decayed manure will make a fine object of itself: it is an annual and should be sown in February or the beginning of March in a pot, and put into heat, so that it may make good growth by the middle of May, when it should be put into six-inch pots. Turn the plants out ball entire into the ground where they are to flower by the middle or end of May. A sixpenny packet of seed will suffice, and will give a good many plants.

THE CANNA.—These are worth growing both on account of their splendid foliage and for their flowers. These are small, but as a rule they are bright coloured. They are half-hardy perennials, but not hardy enough to do much good if left in the ground all the winter. The roots may not actually die,—they may even remain healthy through the winter,—but they will not often break sufficiently early, nor strong enough, in the spring to do much good. Our English climate is too fickle and uncertain for the Cannas, and many more of such tropical and semi-tropical plants, to do much good, except it may be in some sheltered localities in the south or south-west counties, such as the Isle of Wight, Torquay, Exmouth, &c., where the climate is so mild all the winter that green figs remain on the trees without any protection, and standard Fuchsias and Myrtles grow ten and twelve feet high, possessing stems as thick as a man's wrist.

It is therefore necessary to take these Cannas up from the ground in which they have been planted, in the month of October, about the end of the month, and, trimming off all the long roots, pot them into nine- or eleven-inch pots and set them in the greenhouse or stove for the winter, and towards the spring induce them to make progress, so as to have two or three feet of strong growth on them by the end of May. They may then be turned out of the pots into the ground again. The soil should be light and sandy, and should contain a fair proportion of good decayed manure. The plants must be abundantly supplied with water during the summer, with a weekly soaking of strong liquid manure. One strong plant placed in the middle of a three feet diameter bed, with a circle of silver geraniums planted round it, will have a fine effect; or three plants in a four feet circular bed, planted one foot from the margin in a triangle, with one silver geranium between them, will form a grand clump.

The Cannas may be raised from seed, and multiplied by offsets from the root. The seed must be first soaked in hot water for twelve hours. The best way to do this is to put it in a jar, and then pour boiling water upon it, and let it stand from the evening until the next morning. Then sow it in a pot, covering it one inch with soil, and plunge the pot in a strong bottom heat till the seed is up, when it may be lifted, air given, and the plants potted off as soon as they are two or three inches high. The seed should be sown in January, and pushed forward as fast as possible, in order to get the plants as large as possible by May. They have a noble effect with their fine foliage, which is large, and of a rich deep green in some cases, their spikes consisting of bright scarlet flowers.

THE CORDYLINE INDIVISA (sometimes called Dracæna indivisa).—This variety is very ornamental, and hardy enough to stand our ordinary winters out of doors in sheltered places. I know of one ten or twelve feet high. The Cordyline is grown chiefly for its foliage, which resembles in its character broad-leaf Grass arching over; any good mellow sandy soil will grow it. It may be raised from seed sown in February in deep seed-pans or pots, and set in a good heat till it is up. The seed will be sometimes a long time in coming up. It is of that tough-skinned nature which resists the influences of moisture a long time; and although the covering of the kernel of the seed is soft, yet it will not easily burst, so that I caution the reader against giving up hope if the plants do not appear for even six months. Keep the pot or pan containing the seed in the house (hothouse or warm greenhouse), and keep it moist. A shilling packet of seed will raise many plants. As soon as the young plants are three or four inches high, pot them off into three-inch pots, and shift them as required, so as to maintain a healthy growth.

THE WIGANDIA CARACCASANA.—A plant with very large foliage, and fit for growing in a single bed of three feet in diameter in a corner of the flower garden. It may be raised from seed sown in seed-pans, and placed in heat, as early as February. Push on the young plants till the end of May, then turn them out into a good bed as single specimens. Give them a weekly watering with strong liquid manure. A shilling packet will raise several plants.

Here then we have twelve species and varieties of plants of fine foliage, fit for pleasure grounds and flower gardens, in which merely one bed or plant of each would form a most suitable subject for picturesque effect, placed over the surface of our middle and first-class gardens. And this at a nominal cost of, say, ten shillings for the seed, which can be raised by most of our amateur lady gardeners.

Others might be added to this list of ornamental foliaged plants for quickly furnishing the parterre as a class of an uncommon character, and giving to the other objects a natural effect, such as one might find in places where many of them grow wild. The above named, placed so as to admit of a bed of some of the choice annuals or perennials enumerated in this work intervening, will produce an effect in a small or even in a large parterre scarcely to be appreciated until it is seen. I have no doubt that such a garden arranged with taste and judgment (which most ladies possess), and well carried out, would raise an interest in gardening where there was little or none before. I often wish that I could raise such an interest by practical illustration, for numbers who now cannot appreciate what I know to be so easy, would then speedily do so. I cannot but deplore the want of interest among professionals in developing the natural propensity in our flower-loving community, so as to actuate more of our amateurs in a practical way. I am aware that there is at the present time more interest taken in gardening than perhaps there ever was at any one period before; yet as I go about, in no very small circle either, I do not often see what I call a really good garden. There are our friends over the Channel ahead of us a considerable distance in this respect. I know too that climate has a great deal to do with this matter; but it so happens that when the climate does much for us here, we leave it to do nearly all. The French are not so indifferent. They have a good climate, and that seems to move them to greater exertions. I can see plainly, and have proved it too, that our good gardening interest can be developed considerably more than it is.

CHAPTER II.

THE COMPOUND CARPET GARDEN.

THIS name may sound curious to some, and to others it will appear difficult of accomplishment; but I hope to prove presently that no one need be without what is called a 'carpet bedding garden.' To accomplish this there are plants to suit all classes. There are among our plants the Echeverias, Sempervivums, Drabas, Campanulas, Arabis, Aubrietias, Phloxes, Silenes, Hepaticas, Daisies, Erinus, Adonis, Soldanellas, and the Statice; Veronicas, Koniga variegata; Sedums, Saxifraga, Oxalis tropæoloides, Septas, and many more species and varieties of dwarf and close-growing plants suitable for what is called 'carpet bedding.'

THE ECHEVERIA GLAUCA, SANGUINEA, and a variety of others of this genus; some with a dark green, and others with a light green foliage, but all possessing the same, or nearly the same, growing and flowering characteristics. They are exceedingly dwarf, grow very compact, and bloom with pretty dwarf spikes, with loose pendulous panicles of pink or scarlet flowers. They flower very freely, forming one of the prettiest small beds on dry ground it is possible to have, and are remarkably well suited for neat edgings to beds, and for tombs.

The Echeverias, when well planted, will live in hot, dry, and elevated places, such as the ledges of rocks, or the high parts of tombs, and will do well for vases and in window-sill boxes. There is no plant better suited than the varieties of the Echeveria for window-sills outside, where they will be exposed to all weathers except hard frosts. In this latter case the box containing them should be taken in and set in a cool room, keeping them dry until the frost is over. There is nothing to be found that can be more suitable for cottagers for window ornamentation upstairs or down, south or north, than these long-lived and enduring Echeverias.

The SEMPERVIVUMS AND THE SEDUMS.—In window decorations thoroughly drain the boxes, and fill them, first, with some coarse sandy maiden loam and sifted leaf-mould. Then fill them well up firmly to the top, pressing in the soil, which may consist of maiden loam one part, leaf-mould or peat one part, and some sharp sand. Now put in the plants four inches apart in two rows nearly close to the edges of the box, fitting the soil close to them, water, and set them out. This should be done in the spring, when they will require some frequent waterings till the plants get well established.

In planting them on or around tombs, or on rockeries, it will perhaps be necessary to use a compost of one part maiden loam and one part cow-dung made into a mortar. Place a spadeful of this upon the ledges of the stone and insert the plants in it, fixing them firmly. In the case of beds and edgings some preparation will be necessary, and remember that they do not like stagnant water. The bed should never be very large, nor in any case flat; one holding sixty or seventy plants about four inches apart will be large enough. The bottom of it should be laid with a stratum of coarse rubble, or old mortar and coarse peat, &c.; then fill it up with maiden loam and leaf-mould not sifted, raising the surface of it pretty convex, and fully six inches above the original level; make it tolerably firm before the plants are inserted, and when they are, close the soil tightly about the roots.

The same may be said in reference to planting the Echeveria as an edging. This may be raised from seed sown in seed-pans well filled and made firm with sifted maiden loam and leaf-mould of equal parts. Sow the seed on a fine surface and cover it thinly with fine sifted soil and some sand, and set the pan containing it in a warm frame, pit, or house. Shade it for a short time. This plant increases very fast, and may be multiplied by offsets very rapidly.

THE SEDUM.—All the Sedums are very pretty, but some of them are especially so, and are particularly handsome as carpet-bedding plants. Sieboldii variegata, S. acre elegans, and our little diminùtum, and glaucum, are remarkably pretty plants for this purpose. Sieboldii is a handsome, large-leaved sort with a very prettily marked leaf disposed in a regular alternate, pinnate, crenated and variegated form, and running along the whole of a long stem which rises from the root, and disposes itself all round in a procumbent manner, giving to the plant a very pretty appearance.

This Sedum should be planted in small beds of good common soil and elevated above the level; some small stones should be mixed in the soil of the bed so as to render it gravelly. These plants like stones and good drainage above all things, and this variety should also be well exposed to the sun; it is a good plant for rockwork, and admirably suited for boxes for the outside of windows. S. acre elegans is a beautiful thing for boxes, beds, rockwork, and for the margins of beds, borders and edgings. In a bed elevated to a good convex shape and having plenty of stone and sand in the soil, it makes one of the most beautiful objects to be found among foliaged procumbent bedding plants, and in a box for the window in the sun it is very pretty. If possible Sieboldii should not be allowed to flower, but nip off the flower buds as soon as they show, or, what is rather better, nip out the points of the growth as soon as they get four inches long. The best carpet Sedum of all is our thick-growing, pleasant, green and hardy English diminùtum. There is nothing among real carpet-bedding plants more remarkably handsome than this at all times, and especially so when it is in full flower. Those who have never seen this gem in full flower can form no idea of it. The plants are easily obtainable, in fact, may be had to any extent by searching for them.

The bed (which may be of some leaf-shaped figure) should be well raised, and a good layer of old lime rubbish, stones and sand laid in underneath, made firm, and a top layer of maiden loam, fine stones, and coarse sand on the top, with two inches of fine soil on the top of all, merely to fix the plants in. They should be planted quite thick and in good sized patches, pressed firmly into the soil. No replanting nor anything else will be required for many years after, if it is once well done. Nor should it be disturbed in any way. A small bed of this English gem and one of the Mesembryanthemum speciosum purpureum kept dwarf, when in full flower and in the sun, will eclipse everything else among plants as regards display, let them be what they may.

THE CAMPANULA.—Carpatica, blue and white; the common Harebell, a beautiful and compact plant, blue and white. These two are remarkably good things for small beds when planted thick and will make two beautiful dwarf beds of a very neat and compact habit, being of a pure white and a beautiful blue. They are quite hardy and easy to grow anywhere, in almost any kind of soil, and are adapted for small ornamental figure beds.

THE DRABAS, INCANA, ALPINA, AND VARIOUS OTHERS.—Incana is a splendid carpet-bedding plant with a moss-like foliage which is of a soft and beautiful green colour. It may be increased very fast by inserting small pieces of it in small pots, or in a bed of fine sandy soil in the month of April or May, dibbing them into a firm and fine surface three inches apart every way. The following spring the plants will be large enough for planting into beds, or for edgings; small figure beds of any desired shape or form on a small scale will suit it, but it should be bordered with edging-tiles as a set-off to the carpet green, and the bed should be elevated a few inches above the level.

THE ARABIS ALBIDA VARIEGATA.—This is a good plant for carpet-bedding, and the leaf is bold for a small plant. It is of a free growth, and will quickly cover the whole of the surface, forming a handsome carpet of bicolor leaf—a fine contrast to the Draba, or Aubrietia purpurea. A bed of this edged with Pyrethrum Tchihatchewi, or *vice versa*, would give a pretty effect. It is very hardy, and may be planted anywhere, and in almost any kind of moderately good soil. Small pieces of the plant may be taken off in the early spring, and inserted with a small dibber all over the surface of the bed three or four inches apart, when it will soon cover the whole bed.

THE AUBRIETIA PURPUREA, GRÆCA, DELTOIDEA, ETC. —This genus consists entirely of dwarf plants. It is much like the Arabis in appearance and habit, and belongs to the same natural order. It is an excellent genus for carpet bedding and for edgings. The foliage is small and thick, and of a greyish green. The flowers, which are of a dark purple colour, are produced just above the foliage, and in great abundance. It makes a dense carpet bed, but the soil for it must not be over-rich, but of a middling degree of goodness. The bed should be dry, and the plants may be easily raised from seed, or they may be freely increased by cuttings, or parts taken off and dibbed in three or four inches apart.

THE LYSIMACHIA (Loosestrife; Nummularia).—This is a useful and beautiful bedding variety fit for borders. It has a variegated foliage, and might be edged with the Sedum glaucum or Spergula pilifera, with an edging of tiles on Grass, and the Box on gravel. Or with the Spergula as an edging on gravel. The leaf is of a golden colour, is very small, and grows close to the ground.

THE VERONICA.—There are a number of this genus of a pretty dwarf close-growing and free-flowering habit, well suited for carpet bedding or for edgings for large beds of other plants. There are many varieties of the Alpine class, viz. alpina, heterophylla, integripetala rotundifolia, pumila, bellidioides, multifida, nummularia, repens, and others besides all of dwarf habit, not exceeding three inches in height, and most of them not more than two inches. They may be raised from seed, and propagated by cuttings taken off during the summer and early autumn and also by the rooted parts which are found round the plants. They soon spread and cover a bed if dibbed in the surface three or four inches apart. They are exceedingly pretty in dwarf beds, and are also very hardy.

THE SAXIFRAGA.—I find some are substituting the Saxifrage for the Sedum. The latter are more common than the Saxifrages. It was some time before I could satisfy myself on this point, yet they are perfectly distinguishable. The difference between the Saxifrage and the Sedum consists in some cases only in the number of the seed-bearing organs; in others a wide difference exists. Some of them agree very much in the leaf, as burseriana and repens, saxatile, &c. Now, the difference can be seen by noticing the number of the styles in the flower. They are five in the Sedum, and two in the Saxifrage. The male organs are the same. The Saxifrages are superb dwarf plants, and are fit for small beds.

THE ADONIS VERNALIS.—A fine-foliaged, bright-yellow flowering plant. It is of a hardy nature, possessing a bulbous root. It requires to be planted in good sandy soil, four inches apart. The foliage is very fine, and the flowers are moderately large, something like a ranunculus—buttercup, as the children call it; but the plant is not above three inches high. It grows close, forming a mass of green.

THE ERINUS (Natural order, Scrophulariaceæ).—A pretty, blue-flowered dwarf plant for small beds. It should be planted in beds well elevated above the level.

THE KONIGA VARIEGATA.—A remarkably good plant for carpet bedding, or edgings to green leaf plants. It grows erect, but may be made a pretty object if clipped over frequently to induce a thick growth. It is easily raised from cuttings.

THE SILENE NANA, COMPACTA, SCHAFTA, ACAULIS, EXSCAPA, ETC.—All dwarfs, close-growing and compact free-flowering hardy perennials, fit for small beds, and very showy. They may be easily raised from seed in the spring, and finally planted out five or six inches apart.

THE PHLOX VERNA, REPENS, SUBULATA, ETC.—All dwarfs, free-flowering, and fine plants for small mass-bedding. The soil should be tender and of a good nature.

THE SOLDANELLA (Natural order, Primulaceæ).—All dwarf and small round-leaved hardy herbaceous perennial plants, chiefly from the Alps. They are a fine dwarf class for small beds in dry places, and very pretty. They may be raised from seed, and may also be propagated by rooted divisions of the plant.

THE STELLARIA GRAMINEA AUREA (Natural order, Caryophyllaceæ).—A pretty golden-leaved plant fit for small beds in masses. It will strike root freely about the old plant, and these offsets may be taken off and transplanted. The bed will require cutting over with shears to keep the plants down close.

THE STATICE.—There are many of this genus remarkably well suited for carpet bedding. They consist of the nana, reticulata, vulgaris, &c. They form a thick mass of green and flower in a very pretty manner, and may be multiplied by offsets and by seed.

THE OXALIS TROPÆOLOIDES.—This variety makes a remarkable and elevated bed as a carpet. Its uncommon and intensely dark foliage is so different from all other hardy plants, that it should certainly be used more freely as a bedder. The flowers are of a golden yellow, but it is the leaf that makes it so valuable. The plant should have an open spot, and the bed should be raised into a good convex shape well above the surface level, or the original flat about the bed, which should be kept dry. It will soon cover the surface of it, if planted six inches apart. The plants may be raised from seed sown in the autumn or the spring. If sown in the autumn, say in September, in seed-pans, the seedlings may remain in the same pan in the greenhouse or frame through the winter, and be pricked off or potted off into thumb-pots in February or March, and planted out into the bed in the following May. If sown in the spring, the plants will not do very well for the bed till the following summer after the one succeeding the season in which they are sown, *i.e.* twelve months from the time the seed is sown. If it is sown, say, in March, the plants will not be large enough to plant out very well in the same spring.

The plants should be cut over once or twice during the season. If the foliage gets long and coarse, cut it all off close to the ground with shears, and in the course of a week or two some new, neat and beautiful leaves will be developed; it should not be done too late in the autumn.

THE SEMPERVIVUM.—This genus is so much like the Echeveria family that it would be difficult for some people to tell the difference. There is however a difference: the Echeveria belongs to the order Decandria pentagynia—that is, ten stamens and five seed-bearing vessels. The Sempervivum has above ten male organs, *i.e.* stamens; and above five seed-bearing organs, *i.e.*

styles, so that to distinguish the difference existing between some of them you must look into the flower. The common House Leek is a Sempervivum.

All the genus are both handsome and curious. They are, most of them, hardy and self-sustaining, *i.e.* they can exist, and even flourish, without a supply of nutriment. They can also bear a long drought, and will endure continued hard frosts till the leaves are apparently dried up and past recovery; but on the return of mild weather they relax and assume the same appearance they had before. The flowers of this genus are very pretty. Beds and edgings may be made with them. Globiferum, montanum, pumilum and tectorum are among the best hardy kinds. They may be raised from seed, and multiplied by offsets which spring from the sides. The bed (small beds are the best for all these classes) should be well raised and thoroughly drained, as for the Echeveria, Sedum, &c.

THE TANACETUM VULGARE.—This is the common Tansy, one of the most splendid carpet-bedding evergreen plants we possess. The leaf appears so double, and the general character of the dark green is so unique, that I consider there is no plant to equal this for a good sized permanent carpet bed; but it should either be edged with light coloured tiles, or with the Cerastium tomentosum or Pyrethrum aureum.

The Tanacetum is as hardy as a Thorn, but is rather partial to a dry bottom to grow in. It is easily to be had, as it is an English plant, and may be obtained in some places for the gathering. It can be multiplied to any extent by cutting off the crowns that run out from the main stool; these may be taken off in the autumn or early spring and dibbed into beds five or six inches apart. It may also be raised from seed when it can be had. The Tansy flowers abundantly and seeds in some parts, the flowers being of a beautiful golden yellow.

THE LAMIUM MACULATUM AUREUM.—This is a splendid striped-leaved plant, well suited for a good sized bed when it can be edged with something green, such as the Pyrethrum Tchihatchewi, or Santolina viridis.

THE POTENTILLA TOMENTOSA.—One of the most beautiful silvery-foliaged pinnatifid plants anyone can possess, quite as handsome as the Tansy. While the latter has an intensely dark-green colour, the Potentilla has a beautiful silvery leaf which has gained for it the high appellation of the 'Silver Weed.' It will make a good edging to the dark foliage of the Tansy when planted quite thick and six inches wide.

CHAPTER III.

CONTAINING A SELECTION OF CARPETS AND PLANTS FOR THEM.

THE OXALIS TROPÆOLOIDES.—This is of a dark bronze colour and of a close compact habit, and will make a very remarkable carpet for Ophiopogon Jaburan folia variegata, Cyperus folia variegata, or Sorghum bicolor; or, as a permanent thing, the Silver or Golden-striped Euonymus. This last is a permanent hardy shrub. The Ophiopogon has a finely striped flag-leaf, and would make an excellent contrast to the Oxalis. The bed should be a little raised so as to lay the Oxalis moderately dry. The top plants should be planted first, and then the carpet ones. Seven good plants of the Ophiopogon will be enough for a five feet diameter bed, and the same of the Euonymus.

The Oxalis is hardy and will continue for years by cutting it over close to the ground in the spring, and clearing it well off by removing all the dead leaves and rubbish, and then giving the surface half an inch of some fine decomposed manure or leaf-mould. It does not require anything rich or strong for a top dressing. It will do better with anything mild, or it may do even with none at all unless the plants are actually starving. It can be raised easily from seed.

THE TANACETUM or TANSY is of a fine dark and rich dense green colour. Plant good specimens in the early autumn six inches apart every way, when they will soon form a thick carpet; or it may be planted with the Centaurea babylonica, Canna, Sorghum variegatum, Salvia argentea, Lavender Cotton, Veronica variegata, Cupressus variegata, or Thuja aurea.

Both the Tanacetum and those to be planted with it are hardy and durable, with one or two exceptions. The Tansy being of a hardy constitution makes it very suitable for permanent ornamental plants with clean stems so as to show the carpet below. The flowers of the Tansy must be kept cut down, and so must all coarse overgrown foliage; but as the plant gets old it will become more close-growing and compact.

THE DRABA INCANA.—A fine and compact dwarf-growing plant with a frosted green foliage. This is one of the most beautiful close-growing carpet plants it is possible to possess. It is marvellous how soon it will form a carpet of the most perfect order, if well-formed and small plants are dibbed into a fine surface of maiden loam one part, fine leaf-mould one part, and sand one part. Let the surface of the bed be made fine and firm; then dib the plants into it four inches apart. This should be done in the month of April; water it if it is dry weather, and a fine close carpet will soon be formed. The top plants must be first planted, and none will suit this kind better than Centaurea Clementii, cut up to one foot clean stems; or Cineraria maritima, in the same style; or, again, Arundo variegata. These are lasting, and will form a fine handsome contrast; but, above all things, the top plants must not be planted too thick, nor ever be allowed to grow so thick as to hide the carpet below. The knife must be used freely for the Centaurea and the Cineraria, or they will soon completely envelop the Draba.

THE SEDUM ACRE DIMINUTUM.—This no doubt excels every other for splendour as a close carpet bedder. I have said a good deal about this remarkable plant before as a carpet plant, still it is necessary to repeat some of my remarks under the various heads. Here then we have a splendid plant for an under-carpet for such as the Canna (a dark green), Hemp, Humea elegans Camassia atrocærulea, &c.; and some of the erect-growing Grasses, such as Erianthus Ravennæ, a fine dark-brown flowering hardy kind, similar to the Pampas Grass, but with a thinner foliage, which makes it more suitable for an ornamental plant on carpets. These observations in reference to this Sedum, as to the planting of it, &c., will suffice. Nothing would produce a more charming effect than a three feet diameter bed of it, well planted on a dry bottom, with a good Fuchsia fulgens, coccinea or globosa, having a stem of three feet high. The Fuchsias may not do in all parts, i.e. they will not perhaps live through the winter, so as to retain their tops, in the cold counties; but in the more southern parts they will continue from year to year.

If the bed is on grass, it would be improved by an edging of smooth white edging tiles; if on gravel, smooth pebble stones or red edging tiles would be a fine set-off to the whole, and the Sedum will grow over the edging. The Sedum and the whole bed must be raised fully four inches above the flat, rising in the middle of each segment. This bed will be a lasting one of no ordinary class, and the effect as a star-bed will be unsurpassed when the Sedum is in full flower, This and the Echeveria and the Draba will all be in flower at the same time. The Saxifrage will be a little earlier; but whether they all flower exactly the same time or not, the effect as a carpet will remain.

The changes of character, colour and effect that can be produced with the Sedum, Saxifrage, Draba, Echeveria, Sempervivum, Koniga, Arabis, Aubrietia, &c., are almost infinite at the hands of a good skilled amateur who has an abundance of time; and what a delightful occupation for a lady or gentleman so engaged, who can tell? And few can appreciate the pleasure but those so engaged! The work is not a matter of money, for the Sedum may be had for the getting; and the Echeverias multiply so fast that one dozen will soon produce stock enough for any amount of edging. So also will the Drabas, Saxifrages, Arabis, and the Aubrietias.

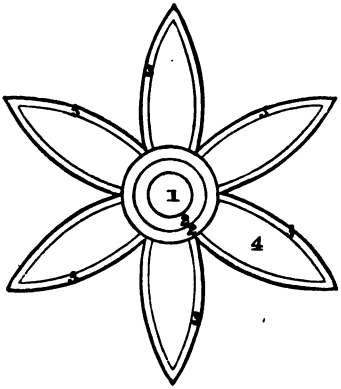

FIG. 8.—STAR CARPET DESIGN, SEVEN FEET IN DIAMETER.

No. 1. Three Lavender Cotton plants, closely grouped, to form a compact bush; or a green Box tree. No. 2. Three rows of the Echeveria metallica or sanguinea. No. 3. A six-inch belt of the Sedum acre diminutum. No. 4. The middle of each segment to be filled with Saxifraga burseriana, or Draba incana.

THE ERICA CINEREA ATROPURPUREA and E. TETRALIX MACKAIANA are beautiful dark-flowered Heaths. There is also the Erica vulgaris, one of the most splendid things to be found for carpet bedding. These will bear any amount of cutting and clipping if they are well done—that is, planted in common peat and good maiden fibrous loam, with a fair proportion of sand in the soil and a thorough good drainage, so as not to allow of any stagnant water at the bottom. When thus planted these hardy Heaths will do well and last a lifetime; nor can anything be more beautiful than these common dwarf Heaths clipped over once a year immediately after the flowering.

The clipping may be done with the shears, cutting them down to within three inches of the ground, and if it is done annually an abundance of young growth will be formed below to supply new growth, and a beautiful green carpet will be the result. This will be succeeded by a carpet of flowers annually of a beautiful purple red in the one, and in vulgaris a carpet of pink or silver pink. As beds alone few things can match them; but if surmounted by some appropriate and durable plants, an increase of interest will be attached to them. The plants best suited for this purpose are those with, say, three feet of clean stem. One plant in the centre of a five feet diameter circular bed will be enough; this might consist of a Golden Thuja, Cupressus alba pendula, or C. variegata.

Those who can spare the time and do not mind the trouble can go to some locality where those Heaths grow in the autumn or the spring, and with a good strong garden trowel or a small garden spade, dig up as many young plants as may be required to fill such a bed; but care must be taken that the plants are such as contain young growth and not hard old wood. If some place can be found where the previous year the turf has been taken off two or three inches thick, an abundance of suitable young plants may be found; and if these are carefully taken up with a ball of earth attached to the root (and if the weather is showery at the time so much the better), a great probability of success will result.

Previous to getting the plants the bed should be made ready, and the top plant, whatever that is, be planted and the soil made firm. Heaths can be bought cheap of some nurserymen. Mr. James Smith, of the Darley Dale Nurseries, near Matlock, Derbyshire, has a large stock and a great variety of hardy Heaths at a very moderate price per dozen, or per hundred. These cultivated plants are more likely to do well than such as are merely taken up from a common from which they have never been before removed. Still, if young plants are selected and carefully lifted, success will generally attend the proper planting of them. As they are taken up, place each plant in a hamper containing damp moss, and pack the roots closely in the moss. Take them home, and plant them immediately with a garden trowel, letting the roots well down into the ground, quite up to the leaves, and then close the soil firmly about the roots, pressing it quite tight. Give them a good watering all over the bed with a heavy rose water-pot. The distance at which to plant the Heaths depends upon the size of them; but from four inches for very small ones, to eight inches apart every way, may be the rule for planting them. For this purpose thicker planting must be done than in any other case, except for close edgings, when the plants should be placed quite close together.

THE JUNIPERUS SABINA PROSTRATA AND VARIEGATA.—The green Savin makes one of the most splendid carpet beds it is possible to have, forming as it does a complete evergreen carpet, and growing close to the ground. It also bears clipping well. A bed of this six feet in diameter, with one good plant of the Ilex aureo-marginatum, or I. ferox variegata, planted in the centre of the bed and edged with yellow edging tiles, allowing room for a row of Thymus citriodorus aurea next to the edging, with gravel as a finish, would have a charming effect. The I. variegata would form a fine carpet for some dark green foliaged plant. The Junipers like a dry sandy soil. Those above named are not expensive, and good plants may be had for one shilling each.

THE LAVENDER COTTON.—If this plant is kept cut down to within four inches of the ground, from young plants, it will form a beautiful grey carpet of a very uncommon character. It will bear any amount of clipping with the shears, and this should be done in the month of April every season. Cut it over quite as even as a lawn. A good finish to this bed would be a nice clean stem of the Cotoneaster microphylla grafted upon a Thorn stock, or upon the Pear, or Blackthorn. This would form a fine contrast to the grey colour of the Lavender Cotton, and each would equal the other for hardiness and duration.

THE GENISTA TINCTORIA FLORE PLENO.—A charming double yellow-flowered procumbent hardy plant admirably suited for carpet beds. It grows in almost any kind of soil, flowers profusely, and will bear clipping well. When in flower it presents one mass of bright yellow, and when not in flower it is of a fine green colour. In a bed raised into a good bold convex a few inches above the level, it makes a conspicuous object of itself; but when it is crowned with some suitable hardy plants—such as the Irish Yew, or Taxodium sempervirens, or a standard Portugal Laurel cut over the head—it presents a fine appearance.

CHAPTER IV.

HOW TO KEEP UP A CONSTANT DISPLAY IN THE FLOWER GARDEN.

THIS is a subject of universal interest among lovers of flowers. What to suggest so as to meet the ideas of most people is not very easy, but I hope nevertheless to show how it may be done. It is easy enough to have a show of flowers in the summer; but to have flowers in the winter is not so easy. However, the following list will be found to meet the case, and will form a splendid variety. As a rule, autumn-flowering plants must either be planted in permanent beds or patches by themselves, for if they (especially the bulbous classes) are planted permanently in beds with bedding plants of a strong thick growth, they will suffer much from the shade caused by the latter, and the consequent exclusion of the sun. They might with advantage be planted in beds where annuals are sown. (See 'The Garden of Annuals.'—'Economy in the Garden.') In this case, by the permanent planting of bulbs in the beds, and by sowing annuals on the surface of the beds, a great advantage and saving of expense will result.

CHRYSANTHEMUMS must be planted by themselves and pegged down, when they will form splendid beds and will last for many years. They will flower from September till the end of November. Four plants of the large flowering kinds will be enough to plant in a five feet diameter circular bed—one in the middle, and three in a triangle, one foot from the edge. Those four plants, if the ground is good, will completely cover the bed when pegged down and well stopped until July. They must be trained over the surface of the bed regularly, which should be raised to a moderately high convex. Some good clumps of Crocuses and Snowdrops may be planted permanently between the Chrysanthemums. These will flower before the latter are much grown, and will die off before they are shaded too much by them. Such patches of Crocuses and Snowdrops will be permanent adjuncts to the beds with one single planting, and they will also increase from year to year. These Chrysanthemums will be permanent objects of great beauty if well attended to. Five plants of the Pompone varieties may be planted in a bed of the same size, where they will form a thick mass of flower, and last for many years as plants.

THE DAPHNE AUTUMNALE will flower late in the autumn; and the D. Mezereum in February and March, according to the season and situation. Each of these may have a bed to themselves or be mixed. In each case some Crocuses and Snowdrops should be planted with them. Autumnal Crocuses &c. may be permanently planted between them towards the front of the bed or beds.

THE STOCK.—The Intermediate East Lothian Stocks may be considered as good as any for late flowering, and nearly all of them come double. The Emperor is another of this long-flowering class and is a fine plant. The seed must be sown in the beginning of April to flower late in the autumn, when each of these

Stocks will continue to give flowers quite into the winter if the weather is mild. (See 'How to Raise Seedlings.') Some Crocuses and Snowdrops or early Squills may be planted as permanent occupants of these beds, as the Stock will neither shade the ground nor overdraw the virtue of the ground very much. The Crocuses, Snowdrops, &c. will succeed the Stocks as regards the flower.

THE VALLOTA PURPUREA; NERINE SARNIENSIS; COLCHICUM AUTUMNALE, several varieties; STERNBERGIA LUTEA; the AMARYLLIS; and the AMARYLLIS BELLADONNA or Belladonna Lily, are all handsome autumn-flowering bulbs fit for the garden. The two first and the last named are superb flowering plants of a foot or more in height. The Colchicums are the Autumn Crocus, a splendid genus possessing some very delicate and beautiful colours. These are all of a dwarf habit, like the common spring Crocus. They come up in the autumn without leaves as by magic, and may be put round the beds where Rhododendrons, Azaleas, Daphnes, Roses, &c. are planted, or in alternation with the spring Crocus, Snowdrop, &c., which would keep up something like a succession of flowers.

THE COMPOUND FLOWER BED OR BORDER.—Generally mixed borders are a sort of finish to grounds, or a background to an ornamental parterre. These mixed borders may be compared to a chaste frame of a beautiful picture, but in many cases they are not so, as they are deficient in quality and good taste. As a rule it is thought that anything may be planted in the border which is unfit for a bed, but this is a great mistake. I know of nothing more ornamental or beautiful and deserving of good judgment in planting than the borders of a well-kept parterre. Narrow borders should be backed with only fine-grown shrubs, and such as will not encroach upon the area of the border nor draw too much upon the ground. Wide borders admit of a somewhat larger growth, but it is bad gardening ever to plant the boundaries of small villa gardens with coarse-growing shrubs and common Laurels, as in the course of a few years after planting no good flowering plants can be grown on such borders. Blinds to prevent being overlooked by some detached or semi-detached house may be necessary, but that may be done without sacrificing a good boundary border. The best ornament for the place would be evergreen climbing Roses trained on strong wire netting, which would also be a good blind and a graceful ornament, and would not interfere with the border occupants.

To furnish the borders well requires a certain amount of care so as to have a considerable variety combined with a protracted flowering character. I propose for the borders of any good flower garden where they form a portion of the parterre, as is frequently the case in most gardens, to plant a good mixture of herbaceous plants and spring and autumn flowering bulbs, as by this means a succession of flowers will be had for the greater part of the year.

The spring-flowering bulbs consist of Crocuses, Snowdrops, Winter Aconites, Squills, Leucojum vernum (similar to a Snowdrop, but scented), Hyacinths, early Tulips, Narcissus, Anemone, Iris, Jonquils, Crown Imperials, Fritillarias, Erythronium dens canis, and the various Hellebores. These should be equally distributed over the whole surface of the borders and planted in groups of six or three, or singly, as permanent objects, where they may remain undisturbed for years.

The autumn-flowering bulbs consist of Gladiolus, Lilies, Belladonna Lilies, Tritomas, Colchicums, Sternbergias, Leucojum autumnale, Schizostylis coccinea, Hemerocallis flava and fulva, and Tigridia (the latter requires to be taken up every autumn after flowering, dried, and kept till the spring), Anomatheca cruenta, &c. These autumn-flowering bulbs should be equally distributed over the whole surface of the borders in the same way as with the spring-flowering ones, *i.e.* in alternation with them. The Gladiolus should be planted in groups of three. The Lilies, Belladonna Lilies, Tritomas, Hemerocallis, as single roots. The Colchicums, Sternbergias, Leucojums, Schizostylis, Anomathecas, and Tigridias, in groups of six.

The whole of these spring and autumn bulbs should be so distributed as to admit of an equal number of single plants of a good summer-flowering perennial kind—unless annuals are employed instead—to come between them; thus a succession of flowers can be maintained from January till November; that is, for ten months at the least, or even eleven if the weather is mild. I do not think it necessary to give a list of either annuals or perennials under this head, as lists of all the best of each class have been already given in this work, and which will be found under the various classes.

Now, to be really and permanently successful in producing and maintaining a healthy growth and good flowers in the case of all these bulbs and herbaceous plants, it is necessary to make the borders equal in quality. Bulbs as a rule like sand, and so, in fact, do most plants, so that a fair proportion of good pit or fresh-water river sand may be added to the original soil, if it is not naturally sandy. The Lilies will require a little additional trouble to be successful with them; some sand and leaf-mould or peat should be added to the ground where, and around the place in which they are to be planted.

CHAPTER V.

THE LADIES' OWN MINIATURE NURSERY.

THE want of a systematic rule occasions many of our lady and gentlemen gardeners to fall short of that amount of success in gardening which their ardent wishes would lead them to expect. 'A place for everything, and everything in its place,' is a rule equally as necessary in the garden as in the kitchen, and as binding on amateurs as it is with the professionals. A compartment devoted as a nursery ground is indispensable for success in the raising of seedlings, and for the propagation of the various classes of plants, whether they consist of the hardy or less hardy sorts. I know that it is for want of this that so many amateurs cannot get on well. All those ladies who are so fond of gardening and want to have a good garden should select a spot on which to place a small frame. A little range of two-feet sashes are placed upon a narrow single brick pit one foot deep in front, and one foot six inches at the back, fixed on hinges so as to turn back at will. (See diagram and plan.)

I think that this arrangement will be found very convenient and useful for amateurs, especially for lady gardeners. The beds C and borders B being raised three bricks high, bring the surface up so as to obviate the necessity of stooping too much, which happens where they are not raised. The pathways F being three feet wide, give easy access to the beds and borders all round, which makes it pleasant to get at the beds, and easy to manage the young seedlings and fresh planted out cuttings. These beds should be filled quite up to the edges with a good compost, which as a rule may consist of old decomposed manure, maiden loam, and leaf-mould, adding as much sand as may be required. When once well filled with a compost of this sort made fine, it will last for years by adding some more fresh fine-sifted compost from time to time. It will, I am sure, afford ladies especially great pleasure to know that everything is ready to hand when they wish to raise seedlings, propagate their pets, and to prick them out when ready into what we call 'nursery beds' until they are strong enough to transplant to their proper

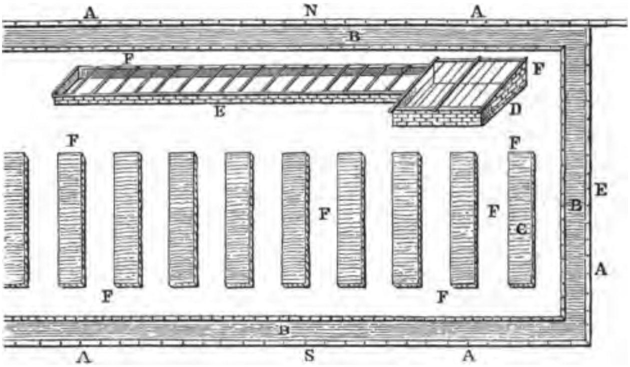

FIG. 4.—PLAN OF LADIES' OWN NURSERY GROUND.

Scale ⅛ inch to 1 foot.

References.—A A A, brick wall; B B B, two-feet borders; C, two-feet beds, with brick or boarded edgings; D, the frame; E, a range of two-feet lights, on a four-and-a-half-inch brick pit, two feet wide, one foot six inches deep at the back, and nine inches deep in front—for raising seedlings, propagation, etc.; F F F, pathways three feet wide.

quarters where they are to flower. No one can succeed with gardening unless they adopt such a plan of propagation, raising seedlings, and pricking them out from the seed-pans, pots, boxes and seed-beds as soon as the young seedlings get large enough. The requisites for the garden are a few bell-glasses of various sizes, three or four hand-lights, and a few yards of very thin coarse and light common calico for shading occasionally, a fine wire sieve, a short straightedge to mark the surface of the beds with lines to prick out by, some seed-pans, pots and crocks. Also some different sized dibbers made out of hard sticks, some not larger than a penholder up to the size of a walking stick, six inches long, and one end made with a nicely graduated point, the other cut at right angles and smoothed off for the hand. A good heap of maiden loam, peat, old manure, leaf-mould, and a few bushels of sand kept dry. The maiden loam, peat, old manure, and leaf-mould should be kept out of doors under a north wall, and never housed except for a few days before it is required, to drain if wet, and then only as much of each as may be required. In wet weather and in the winter it will require longer to dry sufficiently to be sifted, but never keep the bulk of any of these soils always under cover.

The articles above named are indispensable, but they are all that are required for success, combined with a little judgment, care, and study of the subjects in hand. The large frames will be found useful for placing the pots of newly potted-off Cinerarias, Calceolarias, Primulas, Petunias, &c., for a few days or a week till they get re-established. The border under the north wall or fence will be found very useful for the raising of choice Pansies, Auriculas, the Polyanthus, &c., and for inserting cuttings of them and the shrubby Calceolarias, Carnation and Pink pipings, as well as the offsets of the Auricula, Polyanthus and hardy Primulas. The south and west borders will be most useful for raising the seedlings of Stocks, Asters, and the various hardy and half-hardy annuals and perennials in small compartments, which have to be planted out afterwards; also for striking the cuttings of Geraniums and double Wallflowers in the summer, and for wintering Violets, &c.

For those who wish to carry gardening to a much further extent, I recommend a lean-to greenhouse of a very cheap and plain construction, to be erected against a south wall, quite independent of the conservatory, and which should be near the dwelling-house. A very convenient one can be erected for 25*l.*, which includes fixing the rafters and glazing the roof after they are fixed, having every alternate square made to open at the top.

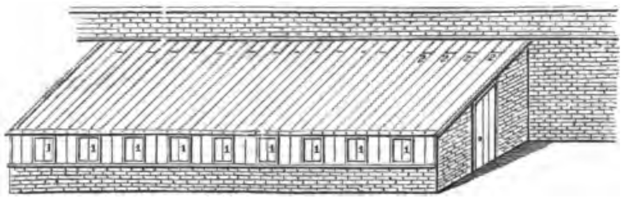

FIG. 5.—ELEVATED PLAN OF GREENHOUSE.

Forty feet long, ten wide. Cost, not above 25*l.*, planting and everything. The staging inside and heating may be reckoned at 12*l.* more. This will be found a roomy and useful house for bringing on plants, and for all ordinary purposes.

Reference to the plan of the house.—1 1 1, sashes made to slide; 2 2 2, all along the roof, one square made to open by means of pulleys.

The heating of this house may be done very economically on the air-drain or Polmaise plan. It is admirably suited to amateurs because of its cleanliness, the little attendance required, and the economy in fuel.

This method may have some drawbacks, but there is infinitely more to be said in favour of it than against it. I have referred to a plan of heating in my 'Good Gardening,' but I now object to the hot-water pipes employed in that case and recommend the tank and air-drain only. A fire may be made well backed up with culm at five or six o'clock in the evening, and a good fire will be found at the same hour the next morning. This method is quite different in principle to all others.

The air-drain is of course immediately under the floor of the house and must be specially covered in, all through up to the tank F, quite air-tight except at the grating H, and at the discharge opening D, where the air escapes over the heated water in the tank, which is kept hot by the fire which is under it. It gives off a nice vapour, which though invisible is sufficient to cause a healthy atmosphere in the house, being distributed all over it by the influence of the air-drain, thus keeping up a constant circulation of heat and warm air; for the heated air is no sooner discharged from the tank than it is drawn down from the roofs into the grating at the mouth of the drain, which must be about the

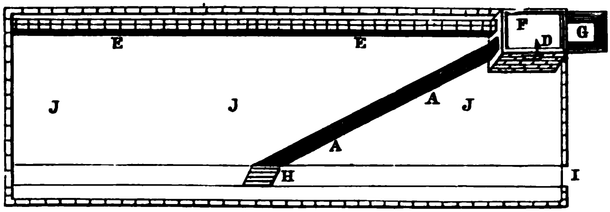

FIG. 6.—GROUND PLAN, WITH ELEVATED TANK, OF THE AIR-DRAIN SYSTEM OF HEATING.

References.—A A, the air-drain; D, discharge of heated air over tank; E E, flue from fire under tank; F G, furnace outside; H, the air-grating in middle of pathway in house; I, doorway; J J J, stage.

middle of the house, *i.e.* about half-way down the pathway from the door. If you put a lighted candle or lamp to the grating of the drain when the fire is well on, the flame of the candle will be drawn in with violence. The tank should be about three feet high.

The fire-place or stoke-hole must be sunk about one foot six inches to give depth enough for a good covering of fire-bricks over it before the iron tank is placed on the work. This tank should be six or eight inches deep, and a stone slab three inches thick must be laid on the top of it, and be well bedded in good mortar. Then a curbing of bricks must be cemented on this slab so as to make it deep enough to hold sand, sawdust, or some plunging material for pots of cuttings, &c. The fire flue E E goes straight through the back of the house on the floor and into a small chimney at the end. Care must be taken that the tank does not lack water, and that no rubbish gets into the air-drain.

The cost of this as a heating apparatus is almost nominal; anyone can see that it consists mainly of a little skill and labour, material being a mere item. This house and nursery will be found very useful for any small florist as an adjunct to the growing departments of plants for sale. I know that there is nothing like having a compact and systematic way of doing business, whether it is for pleasure or profit. There is not only a saving of time by having a place for everything, but also a saving of money too. One person will do as much as two who try to work otherwise by adopting such a plan. I have proved it, and amateurs I am sure will find it so. No one is obliged to work on this scale, yet they may profitably give the plan a trial.

CHAPTER VI.

HOW TO RAISE SEEDLINGS, AND PROPAGATE CHOICE FLOWERS.

As a ready reference for amateurs in connection with the 'ladies' own nursery ground,' I consider it incumbent upon me to name a few of the most popular and useful plants that are generally required, and to show both how to manage them as seedlings, and propagate them for themselves, so that they may be able not only to preserve their pets, but also to increase their stock, without depending upon others who either do not know how to do it, or will not take the trouble if they do.

THE PRIMULA CHINENSIS.—This favourite greenhouse perennial may be raised from seed sown in shallow seed-pans well drained and filled with old pulverised manure one part, leaf-mould or maiden loam one part, and silver sand one part, well mixed together and run through a fine sieve. Sow it in April, covering the seed as thick as a shilling, and set it in a small frame or house, shading it for a while from the mid-day sun. Keep it moderately moist but not wet, and give it air as soon as it is up. Prick off the seedlings into a three-inch pot as soon as they have from four to six leaves, and keep them in a light cool house, and shift them into five-inch pots as soon as the roots have filled the small pots, using good compost as above.

Choice sorts and the double Primulas can be multiplied by the offsets which sparingly spring from the neck of the plants, *i.e.* from the base of the leaves close to the pot generally. Whenever these appear, which generally happens after flowering, take them off with a penknife close to the old plant with a heel of the old wood as we say; denude the cutting of the leaves at the base and cut it over a little so as to make it clean, then insert it in a three-inch pot filled quite full and made firm with the compost alluded to above. Insert the cutting in the soil up to the leaves, press the soil firmly to the base of it with the hand, give it a little water and set in a very mild heat, not too much nor where any steam arises. Place a bell-glass over the pot, but not on the pot.

THE GERANIUM.—It will be found that both the common Scarlet and also the fancy sorts of the Geranium will strike root from cuttings inserted in the open ground, far better and with less trouble than they will if nursed and coddled under glass with heat. Cuttings of all the fancy kinds should be taken from the stock plants as soon as they come on early in the season; those which are short and healthy should be taken, and when trimmed inserted in a bed. The south border of the nursery ground is as good as any place.

The soil should be made fine and firm by beating the surface with the back of the spade, and then plant the cuttings two inches apart, inserting them with a small planting-stick. Close the soil firmly to the base of the cuttings, and give them water, and some little shade for a few days during the hot mid-day sun. A few sprays of the Fir tree, or anything of that sort, stuck into the ground will do well for a shade for them, for a few days, till they have formed a callus at the base, when they may be removed and plenty of water given them. Cuttings of the Geranium will strike freely this way, but I would advise that they be inserted as early as it is at all convenient to do so. When they are rooted, which can be known by the growth they make, take them up carefully with a light hand-fork made for the purpose; this tool is short and can be used with one hand. Then pot them off into three or four inch pots, house them, and nip out the top of each of them. The raising of seedling Geraniums may be done at any time, but the best time is in the spring; sow the seed in seed-pans, and place them in a close box. The narrow pit is the best place.

THE CALCEOLARIA.—The herbaceous Calceolaria can only be properly propagated by seed, though some persons say it can be multiplied by cuttings; but I would give a guinea each for them. The seed should be sown in May in fine soil put into seed-pans and then placed in the narrow pits on the bottom, first sprinkling with water, which will cause a nice vapour to rise when the small sashes are closed. Place a shade on the light where the seed-pans are. The surface of the soil should be well watered with a fine rose before sowing the Calceolaria seed. As soon as the seedlings appear give them air, and shade them from the hot sun, and prick them off into small pots as soon as they can be handled well. Keep them cool until October, when they may be placed in a cold frame till February, when they should be shifted into six or seven inch pots to flower. All the Calceolarias require is to keep them in a damp and cool pit or frame during the winter to secure them from the frost, and then no insect pests will trouble them.

THE CINERARIA requires to be sown in June and to be treated in a similar manner to the Calceolaria, except that it must be placed in the flowering pot (six-inch) in October, and on a stand in a light house at once, and syringed once every day till it is in flower. Choice sorts can be propagated by offsets which come on the base of the plants after flowering. These should be taken off and placed in three-inch pots and put in a cold frame for a little while till they are well rooted.

THE FUCHSIA.—Fuchsias may be raised from seed sown in pots or pans in March and placed in a slight heat. The Fuchsia may also be multiplied by cuttings freely whenever young growth can be had with two joints, inserted in small pots filled with a compost of maiden loam, leaf-mould, or peat and sand, and plunged into a mild heat.

THE ROSE.—Roses may be multiplied by cuttings at all times, whenever those can be had that have just dropped their flowers. It is of no use whatever to make cuttings of any wood not thoroughly ripened. I am aware that it is very interesting for ladies to know when and how to make young plants of some choice Rose they may possess, and for the immediate convenience of my reader I make these concise, but plain remarks. As I have just said, cuttings of all Roses may be struck at all times throughout the summer and the autumn from good sized plants. The largest and medium sized growth (the small and weak spray should be rejected) which has produced flowers immediately, i.e. within a few days during the summer, is that which should be selected. After the flowers have all dropped from the shoot, take a keen-edged penknife and remove the cutting as close as you can to the base; then cut the base of it clean over, at right angles, *one eighth of an inch* below a bud. Remove the lower leaf, and then insert the cutting in the fine soil on the north or west border, quite up to the first leaf left on it; there generally being but two leaflets, one should be taken off, and the top one should be left on. If there are three, remove two, and then insert the cuttings up to the base of the leaflet left on. Close the soil quite firm to the base of it, and give it some water.

The cuttings should be inserted in the south border, or in the small pits, in the autumn. Good young plants will be obtained in this way by March or April, when they may be taken up and potted or planted into beds at pleasure.

THE PHLOX.—The perennial Phlox can be propagated by cuttings taken off the stem of the flowering parts of it during the early summer, and inserted in pots of fine peat, or maiden loam and leaf-mould and sand, placed in the small close pits, or under a hand-light.

THE DOUBLE WALLFLOWER.—Take slips of these in the month of May, and insert them in the border under the north wall.

THE HUMEA ELEGANS can be easily raised by sowing the seed in seed-pans filled with fine soil during the month of March, and placed in a mild heat.

THE ACACIA, Datura, Dracæna, Canna, Echium, Centaurea, Tacsonia, &c. can be raised by sowing the seed in March, and covering it with an inch of fine soil, and placing it in a good heat.

ALL THE HALF-HARDY ANNUALS named under the head of 'Economy in the Garden' can be raised with or without bottom heat by care and good management. This consists in preparing a good and suitable compost, keeping it in a proper condition, and carefully covering the seeds a proper depth according to their degree of strength; also by adapting the surrounding circumstances to the various cases, with a little daily watching.

As a rule, without much exception, one barrowful of sifted leaf-mould, one of sifted maiden loam, half a barrowful of good peat, and half a barrowful of good sharp sand (silver or clean pit sand free from minerals) will form a compost fit to sow and grow anything in. This compost should neither be too wet nor too dry when used, and it should be in such a state that it will run through a quarter-inch mesh sieve well and clean without clogging the wires, but never drier, *i.e.* not dusty dry. The ingredients should be sifted and laid up in a compact heap under a shed for a few days or a week before using it; and after each occasion of using it, if left for any length of time, the heap should be packed together with the spade, and slightly beat over to prevent it from drying.

The next important thing is to cover the seed deep enough, but not too deep; a deal of disappointment frequently arises from this cause with amateurs. The finest of seeds, such as the Calceolaria, Petunia, Mesembryanthemums, &c., must not be covered more than the thickness of a threepenny piece; and all such as the Brachycome, Portulaca, &c., not more than the thickness of a new sixpence; and the Stock, Aster, Phlox, &c., not above that of a new penny.

Another point very essential to success is to meet the requirements of the subject in hand. If there is no artificial heat at hand, as a substitute for it use cold frames and the close small pit referred to in the 'Nursery Ground.' I have done so many a time in the following way. Put a good layer of sawdust, cocoanut fibre refuse, or old tan at the bottom, make it pretty solid, and then set your seed-pans or pots containing seeds on it. Keep the sashes close during sunny weather, shade a little, and with double mats cover the whole of the glass and frames quite close with them an hour before sunset, and do not open the sashes afterwards till ten o'clock the next morning. Do this every day regularly to the minute. About two or three o'clock in the afternoon, in the month of March or April, take a fine rose waterpot, or the dewpot, and having it full of tepid water, open the sashes one at a time, and sprinkle all the interior of the pit or frame, so as to cause a nice vapour when the sashes are closed; but by no means do this sprinkling too late, for that would do more harm than good by causing a chill. As soon as any of the seeds are *up*, as we call it, remove them to a compartment where air can be admitted by degrees. By such means anything that requires artificial heat may be raised with ease, except such as the Acacia, Canna, and a few others.

CHAPTER VII.

HOW TO MAKE A FERNERY, AND WHERE TO PUT THE PLANTS.

THE general love of Ferns induces numbers of persons, especially ladies, to desire the possession of them, and that without much regard as to the most suitable place in which to plant them when they have obtained them. A great deal is lost by this, and frequently the beauty of the plants is sacrificed by not planting them in the best and most suitable aspect, continued shade being no doubt the best for all Ferns, but more especially for some of the classes. We find that some do much the best in a light comparable to the shades of evening; and we also find that hardy Ferns become discoloured by being exposed to the strong light of the midday sun. Let the collection of Ferns be small or great, and the accommodation for a fernery be great or small, a shady spot should be selected for it. They should be planted under a north or west wall or hedge.

Ferns are very desirable things, as they will do well where no flowers will grow, and will also look well when planted on embankments under a north wall. Old logs and earth make a good fernery. Lay the old logs along the foot of the wall, then fill up with sandy peat, bog earth and maiden soil to form a bank, and into this plant the Ferns, the larger growing ones at the bottom, and the smaller ones at the top, and here they will luxuriate to perfection. If no such wall exists on the premises, a hedge will do; or ferneries may be ornamentally constructed on the north side of shrubs along drives, walks, and on the sides and in recesses against the house or buildings. An interesting and very ornamental fernery may be made by training climbing Roses in a zigzag fashion on a strong wire fence, fixed on posts, with some arches or Laburnum trees planted, so as to form a shade, and then some embankments formed on which to plant the Ferns.

Ferns of most of the British species may be had in Devonshire simply for the trouble of collecting them. I believe that a greater number of species and varieties are to be found in this county than in any other, and perhaps than in all the others put together. A short time ago (August 1879), I was walking half a mile from my house near Newton, when I found such a quantity of Ferns on both sides of a lane, that I was fairly surprised, especially when I discovered some rare ones: Adiantum nigrum, several varieties; Filix fœmina and F. mas; Polypody, and Scolopendriums in variety; an abundance of Osmunda regalis, Lady Ferns and Blechnums are to be had, together with Asplenium, Trichomanes, &c., all of such luxuriance and colour as are not often seen. The soil and climate suit them well in that locality, and the soil in which they usually flourish and carry such a deep green should be nearly black, being mixed with shillet, and well drained.

The best time to get Ferns from the woods and hedges is in the month of April, or at least not later than May—April being the best time, as then they will be just breaking leaf, and the Grasses and other strong-growing weeds will not hide them. A stout pointed trowel will be a good tool to take them up with, and a Daisy-grubber is also an excellent thing to get them out of the hedges with. The plants should be medium or small-sized ones, and they should be planted immediately you get home. If they are to be taken to a distance, they should be laid on their sides, packed in dry hay in a hamper, the roots being previously wrapped in damp moss and tied over. They should then be despatched as quickly as possible to their destination. In counties where a very dry atmosphere exists, syringing once a day throughout the summer should be resorted to in growing Ferns.

CHAPTER VIII.

PLANTS FOR WINTER-FLOWERING IN THE CONSERVATORY.

THE want of flowers is always felt more or less during the winter months, when as a rule they are most required, especially for bouquets. Glass houses can now be erected so cheaply, and the means of heating are to be obtained at a much less expense, and less fuel is wanted to keep up a good heat, therefore I now propose a plan so that any amateur can have cut flowers on her own premises. First of all a convenient glass house must be provided, and one quite adequate for the purpose can be erected for 25*l.* against a wall for the back of it. I will now give an estimate for one.

Cost of a plain Forcing House, 20 feet long by 10 feet wide; 10 feet high at the back; 5 feet high in front; 2½ feet of glass sashes in front; 2½ feet of brickwork; one dead brick end; one door:—

	£	s.	d.
20 12-feet rafters 4½ × 1½	2	18	0
60 feet of sill, and eaves, and wall plate 4½ × 1½	0	15	0
240 feet of glass in squares 17 × 12	1	11	0
500 bricks	0	15	0
Mortar and labour	0	7	0
Putty and glazing	0	10	0
Painting, three coats	1	0	0
Front sashes and glazing	1	16	0
Boiler and piping	8	0	0
Staging and shelves	5	0	0
	£22	12	0

Glass houses are now advertised of a more ornamental construction, and at a lower price than the one for which I have given an estimate, but they are not so useful; and as regards the ornamental part the exterior has not much to do with real use. The size of this house is much larger than of those advertised, though it is the same price or thereabouts. The materials must be had already prepared from some of the large greenhouse manufactories in London, and a jobbing day carpenter in the neighbourhood may be employed to erect it. If the manufacturer has to send men to erect the building it will cost considerably more. The estimate I give here is the *bonâ fide* manufacturer's price, and may be relied on. The staging and heating apparatus may be more or less, according to the kind employed, but I believe that I am above the figure for these.

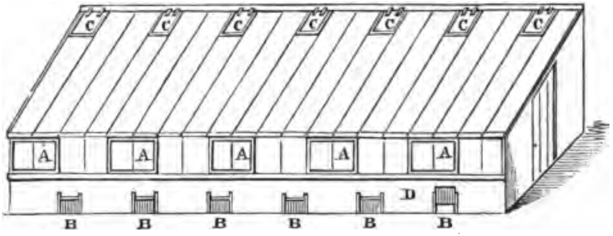

FIG. 7.—FORCING-HOUSE.

Twenty feet long, ten feet wide, ten feet high at back, five feet high in front, with substantially fixed rafters, and glazed.

References.—A A A A A, two-feet sashes, made to slide; B B B B B B, ventilators of zinc, made to lift up in a groove, to give air under the flue when the front sashes cannot be opened; C C C C C, ventilators at top of house; D, brickwork.

A double flue made with bricks running once along the front of the house, and round the end, will be a good arrangement in connection with a common furnace outside in the wall of the house. The top of the flue will form the front stage for plants, and will be a very good place for forcing them if it is covered with a double layer of large square paving tiles, which should often be sprinkled with water when in use. All kinds of plants may be forced in this house; for being low and having fixed rafters, glazed with large squares of glass, and being air-tight or nearly so, no heat can escape, and a good heat can be maintained with a small quantity of fuel. The house previously alluded to, forty feet long, on the Polmaise plan of heating, is similar to this, except that a greater heat can be generated in this house than in the other, on account of its being smaller and having a greater surface-heating area at about the same cost.

MINIATURE CHINA ROSE (Rosa Lawrenciana) is a gem of a Rose for growing in pots, for button-holes and bosom bouquets. It may be easily grown in this house, where it will flower the whole year. Other Roses may also be brought on early in the same way, by introducing them in November when they are well established in pots.

MIGNONETTE sown in six-inch pots in the month of August, and kept out of doors till the middle or end of October, and then introduced into such a house, will continue to give an abundance of flower through the whole of the winter.

POTS OF NEAPOLITAN VIOLETS set in such a house along the front will continue to give a succession of fine flowers for a long time.

AUTUMNAL and the early spring EPACRIS will give a succession of flowers in this house for a considerable time.

SPIRÆA JAPONICA introduced into the house in the early autumn will give an abundance of flowers in the early spring.

A few pots of the DEUTZIA GRACILIS put into the house in December will give an abundance of flowers if the plants have grown freely during the preceding summer.

DAPHNE INDICA RUBRA, AND D. INDICA ALBA, AND D. MEZEREUM, AND D. BLAGAYANA (a free-flowering and beautiful sort).—All of these may be easily grown to perfection in such a house.

PERSIAN CYCLAMENS AND COUM will do well here, if well established in pots before they are introduced.

CHOROZEMAS will also flower freely in such a house, and become most useful to cut for bouquets.

GENISTA CANARIENSIS.—A very free flowering and beautiful plant for early spring flowering, which will do well in this house.

CORRÆAS.—A fine species for cut flowers, which will flower well here.

Pots of JASMINUM OFFICINALIS will give a free bloom in this house, if well established in pots twelve months previously.

LILY-OF-THE-VALLEY.—If established in pots a whole year previously, will give an abundance of early flowers if introduced into this house in November, and shaded by moss laid on the pots till they have grown an inch, at the same time being kept very wet—never allowing them to get at all dry. If these are potted and placed in heat at once they will give flowers, but no leaves; but if good buds are established in six or seven-inch pots a year beforehand, both flowers and leaves will be obtained at the same time.

STATICE SINUATA—a free-flowering Statice—will bloom well here, and this is a handsome herbaceous plant for cut flowers.

Pots of the INTERMEDIATE STOCK will flower freely here, and afford some very agreeable adjuncts for bouquets. If the seed of the East Lothian Intermediate Stock is sown in the month of June, and the plants taken up when they have grown to a good size, and put into five-inch pots, or three in a seven-inch pot, and plunged in a southern border up to their rims, being encouraged to grow freely through the early autumn months till November, and then brought into the house, they will give an abundance of fine flowers all through the early spring, some liquid manure being given them once a week. This Stock, of which there is a fine scarlet, a purple, and a white kind, will nearly always come double.

NARCISSUS.—If the double Roman, Paper White, Poeticus albus plenus odoratus, and Tenuior Narcissus are potted in the month of September, and plunged in sawdust, old tan, or cocoanut fibre refuse, covering the pots over three or four inches, they will be fit for introducing into the house by the end of November, when fine flowers may be had from them in January and February.

SNOWDROPS, CROCUSES, SQUILLS, VAN THOL TULIPS AND HYACINTHS, treated in a similar manner to the Narcissus, may all be had very early by the use of this house.

VIOLETS.—Early preliminary operations are necessary to ensure success with forced flowers. The Neapolitan is no doubt the best Violet grown for this purpose, but several months' preparation is necessary. Take cuttings of the young runner shoots from old plants in the month of May, and let them be, say, two or three inches long; insert them under a hand-light in good light soil—maiden loam, leaf-mould, and some sand; give water and cover them; a west border will be a good place for them. As soon as they are well rooted take them up carefully, and plant them out into good soil on a west border eight inches apart; nip out every point of the young shoots, and continue to do so at every fresh growth they make all through the summer till September, when the plants may be lifted with a good ball of earth, and placed in boxes or pots and filled up round each with fine leaf-mould and soil well watered. They should then remain out in a sunny place till the middle of October, when they may be removed into the warmest part of the house, or into a frame.

Mignonette must be sown in the pots in which it is to flower in the beginning of August, the pots being filled quite full, and the soil pressed firmly into them. Give a good free drainage at the bottom of the pots, and then fill them up with a compost of one part maiden loam, one part decomposed manure or old leaf-mould, and one part sand. Sow the seed thinly on the surface of each, and when they possess from four to six leaves, thin out the plants to three in the middle, of which one of these will do to flower.

In all cases the plants for forcing must be well established before they are introduced into any amount of heat.

CHAPTER IX.

FLORIFEROUS CLIMBERS FOR THE GREENHOUSE.

It is often asked, 'What can I get to cover the roof and walls of a greenhouse?' A difficulty is often felt from the want of some good flowering creeper that is not much liable to insect pests.

THE CLEMATIS family are particularly suited for this purpose, being free to flower and of a most rapid growth, nor are they liable to insect pests. I know of few things that will well compare with C. Sieboldii, a fine floriferous white-flowered variety, having a centre of purple blue which looks very handsome. This and some other sorts do exceedingly well on the back trellis, or on the pillars of the house. They flower upon the young growth, which after the flowering is over dies partially down, and then all this dead and unripe growth should be cut back. Some stimulant should then be given to the plants, when a second crop of flowers will often be produced.

THE PASSIFLORAS are a genus well suited for growing on trellises, the pillars and the roof of cool greenhouses, but as a rule they are almost of too free growth for small houses, and if the young growth is not constantly trained as it advances, the plants soon get so confused as to spoil the order which is so necessary in such places; otherwise they are among our best conservatory ornaments as climbers over roofs, trellises, and round pillars.

ROSES.—Of these there are numerous sorts, all of which will answer well for training on trellises at the back of conservatories. 'Maréchal Niel' is now the greatest favourite, and some people seem to think that there is no Rose so good as this. It is quite true that it is a splendid Rose, and of an exquisite shape, but it is all yellow, and only yellow, if that can be esteemed the best colour for a Rose! I think, however, that there are many other Roses that possess much more desirable tints of colour than yellow, especially for the Conservatives, who like blue. Well, we have no blue Roses, but we have every other shade of colour, and I think that some of the Perpetuals, Chinas, and Noisettes, with their various shades of colour, are even more desirable than all the yellow Roses.

There are now many new and improved sorts of Roses, but I very much question if any of them can excel some of our old ones. There is the old William Jesse, a hybrid perpetual which no new rose can excel for grandeur, size, or as a fine pillar variety. Then there is that peculiar and handsome Rose, Prudence Raeser, one of the most splendid pale-coloured varieties, with a buff centre and of an exquisite shape. When the bud is only half open it is handsome. Again, there is the Archduke Charles, a truly splendid kind, which is a Mutabilis Rose, that is, it changes colour as it opens; it is a China Rose. There is also the common China Rose, which is no doubt one of the best of the free-flowering and constant kinds, which is beautiful even in the bud. These are all well adapted for training on the backs of houses, on trellises, pillars, &c.

In growing Roses on trellises and in houses, it is necessary to keep the syringe plying upon them every day at the least, to keep them clean and free from the green fly, especially when they are growing freely and coming into flower, as well as before the buds open. If they are in heat, use tepid water to syringe them with every morning. This syringing must be done every day with clean water, or a failure will certainly ensue.

THE BIGNONIA is a genus consisting of many grand and beautiful varieties, adapted to the roofs, pillars and trellises of a good house. They will form graceful objects in such situations if a mild heat can be obtained. B. radicans will do well as a cold conservatory plant, and also B. Jacaranda alba. The former has red, and the latter beautiful white flowers.

THE TACSONIA VAN VOLXEMII.—This is the well-known beautiful scarlet greenhouse creeper, with large handsome passion-flowered blossoms, suspended on the plant by a very long foot-stalk, which gives them a peculiar appearance. The roof of the house is the proper place for this plant to be trained on, where the flowers can show themselves to advantage.

GERANIUM.—The Ivy-leaved Geranium is a beautiful thing for training over the trellis of a greenhouse where there is not too much shade. There are many varieties of this class. Also one or two very strong-growing scarlet kinds which will do remarkably well for this purpose.

THE COBÆA SCANDENS VARIEGATA.—One of the most beautiful and rapid growers that can be had; one plant will cover the back or roof of a good-sized conservatory in a very short time.

THE ABUTILON.—There are many new varieties of this beautiful free-growing greenhouse plant; but I know of scarcely one more handsome or free to flower than the old 'striatum.' The flowers of this are not so large as those of some of the new ones, but none are more beautifully marked, nor so free to flower. This plant makes a splendid cover for the back trellis of the conservatory.

ACACIA LONGIFOLIA MAGNIFICA.—This is a splendid Acacia, unlike most of the genus as regards the flower. It has long simple leaves, and the flowers are produced at the axils of them all along the young wood in great abundance. This species makes a beautiful trellis and pillar plant for the conservatory.

THE KENNEDYA MARRYATTÆ.—This is a fine old beautiful pea-shaped and free flowering climber. It grows well on a pillar, or trained on the roof of a house, where it will display its orange-coloured flowers to advantage for a long time during the early spring, and on into the summer months. The Kennedyas are a little liable to the attacks of the red spider; but if the syringe is used freely, it will keep them clear of it.

THE SOLLYA HETEROPHYLLA.—This is a dwarf climber of a very neat habit, having pretty blue flowers, which are produced freely and for a long time. The plant has an abundance of neat evergreen foliage, which makes it a desirable one for covering a trellis. It is a very woody and hardy greenhouse climber.

CHAPTER X.

ON THE SHAPE OF THE BEDS.

IT will no doubt be particularly remarked that I recommend round beds all through this work, which some may think partakes too much of the old school. Now, my reasons for adopting this class of bed in these times, when whims and fancies rule so much, is not only on account of their advantages, in which respect they are more to be recommended than most of the other kinds, as being far better suited to the character and well-being of all plants, but also to endeavour to counteract, if possible, the extravagant tendencies of the present day. I find that these fanciful ideas have made great progress of late in devising some of the most whimsical and useless patterns possible, without much real utility as receptacles for plant growing.

As designs for carpet patterns, I admit that many of them are very pretty and well adapted for that purpose; but how many of our floral-loving amateur community are there who can appreciate the ideas embodied in those fancy beds, or who are prepared to carry them out well or at all? Is there one in a thousand? I think not. Then I may ask what is the use of these empty designs or even to fill many of them with things that tend to obliterate the design? Again, many of these fancy patterns cannot be made on a scale sufficiently large to contain soil enough for a number of gross-feeding plants to flourish in, or even to live in at all.

Now, perhaps some who have seen my 'Plain Guide to Good Gardening' will say, 'But you have given many fancy ideas, and shown how to carry them out in your own book!' Well, so I may have done, and it may have been necessary in a work of reference for all persons; but I do not recommend many of them for practical purposes, for I can never see the use of many of these fancy things. I always find that much time is saved, and that plants do much better in good substantial beds than in the narrow fancy patterns; and as a rule nine out of every ten of our amateurs who like a good flower garden cannot afford to be for ever purchasing plants to replenish beds that have failed. Here then I may find good reasons for my circular or round beds for plants, besides the uniform appearance which they present, look which way you may.

Besides you may see that all nature shows a natural tendency in this direction. Look at the trees where there is nothing to interfere with them: what beauty there is in their roundness! The roots of all trees and plants proceed from the stem all round alike, if there is nothing to obstruct them; and if there is, the plant will luxuriate on one side while it may fail on the other.

Circular or round beds are moreover easier to make and to fill, as well as to manage when they are filled, and they present a much bolder appearance than the others, and look neater when well kept, let them be large or small. However, I do not hold with making large beds as a rule; but of course the scale for them should be regulated by the size of the place.

It will be remarked that I have nearly always adopted five feet circular beds. I mean five feet as regards their diameter. No one can be bound by this scale, but as a rule it will be found that it will suit most places. In making beds due consideration must be given as to what their contents will be for a permanency. The surrounding circumstances as regards other plants, trees, or shrubs, contiguous to them, and which may interfere with the well-being of the plants contained in the beds, must also be taken into account. Often have I seen a complete failure of the occupants of a bed situated too near some tree or gross-feeding shrubs, which in the course of a year or two eat out all the virtue of the bed and starve the plants in it.

Small gardens should never be planted with such as the Ash, Elm, or coarse Firs as boundary trees, for these will intrude upon the beds of good soil, and soon eat out all the virtue of them. When this cannot be avoided (which is often the case in consequence of neighbouring estates), every year in the autumn let a strong man take a spade and drive it down perpendicularly, up to the handle, all round each bed so situated; this will sever the surface roots of the intruding trees, and check the progress of the roots. If, however, this will not do, take what we call a 'root chisel,' an instrument used by men who take up the breech end of trees that have been felled. It is a long iron tool and very stout, having a wide sharp chisel end, with a wide flat and solid head, being about three feet long, and very strong. This tool can be driven down two feet with a wooden beetle, and will sever any large roots it comes in contact with.

I need not describe the manner in which circular beds are struck out, as everyone knows how to do that.

When beds are to be edged with the Box, the edges of them must first be made quite solid, and beaten well with the spade. Then a stick should be stuck in the centre, and with a cord strike a circle, and then cut down the edge to the line, which ought to stand out at the foot a little.

PART IV.

DESTRUCTION OF INSECT PESTS; AND GENERAL WORK IN THE FLOWER GARDEN.

CHAPTER I.

INSECTS TROUBLESOME IN THE FLOWER GARDEN.

THE various kinds of insects that are a constant drawback to the growth of flowers are numerous, and cause much annoyance and disappointment to those who have gardens. In some places they are more troublesome than in others. Around the sea-coast and where the land is rocky and of a light nature, insect pests are numerous in variety, and near wooded places they are multiplied at an amazing rate. I know some places so infested with the Woodlouse (Oniscus Asellus, and O. Armadillo) that it is a hard matter to get anything that is not injured more or less by them, and this pest is difficult to get rid of. This insect generally commits its depredations during the night, although it will creep about in the dull daylight.

It exists to such an amazing extent in some parts of Devonshire, in the open fields and gardens, that in some particular localities, such as where the land is light, having a rocky or dry subsoil, they eat up everything. They gnaw the outsides off the Potatoes in the ground, and so fret them that I have known the crop to fail, or nearly so, as a consequence. One lady amateur gardener I know very well told me that she could not get a good bed of Verbenas in consequence of them, and I observed that her beds of Verbenas then in flower were literally swarmed with this troublesome insect. She said, 'What can I do to get rid of these pests?' In some districts like this lady's, and near woods (such as where I was once situated), they are so numerous that no Mushrooms can be had, at least artificially, and it is also a hard matter to get good Melons.

In cases where they seem to live in the soil (as they do in those localities I have named) all the year round, and where they deposit their eggs, I advise that the beds and the surrounding tillage ground be well dressed once a year with fresh gas-lime after the flowering season is over, say in November or December, and let it be well forked in and mixed with the soil. Then let the soil lie barren till the following spring, when it may be again dug and made fit for the crops. Gas-lime is a very strong manure, consisting as it does of an abundance of sulphuric acid. No crop should be put upon the ground for some months after a strong dressing with this insecticide, which proves most fatal to insect life, and also in its fresh state to vegetable life if it comes in direct contact with it; but if some weeks or months are allowed to elapse from the time of its application to that of the cropping of the land, no safer or better manure can be used for any crop, or for flowers. I am particular about mentioning all this, lest some persons may be disposed to use it as an insecticide among growing crops, and perhaps for flowers in cases of emergency. The gas-lime can be had very cheap from the gas works.

In cases where the Woodlouse is troublesome among growing plants and Mushroom beds, get some phosphorus and mix it with some well-cooked mealy Potatoes. Make it into small balls and lay it among the plants in small pots turned on their sides. The insects will eat this the more readily if a little sugar is mixed with it and made into compact hard balls.

THE APHIDES.

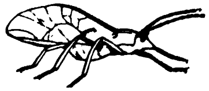
FIG. 8.—MALE APHIS.

There are a great many varieties of this pest, but all of them are enemies to plant- and fruit-growers alike. Many suppose that the Aphides migrate from some other part of the world to this country in the spring, but I cannot agree with this view of the subject. Staveley says that 'in the spring, numbers of fertile female Aphides, and females only, are hatched from eggs laid in the autumn. These rapidly attaining to their full growth, but never to the possession of wings, give birth, not to eggs, but to young fertile females like themselves. These repeat the same process, which occurs again and again, until at last nine generations are produced.'

Now this looks like the truth and should have the preference to other theories, as the Aphides are not able to fly in a cold and strong east wind, nor, in fact, in any wind at all, for a very slight breeze will deprive them of the power to fly at all. Nor can they endure much cold, for they always first appear in some sheltered and warm place. I have no doubt that the female deposits millions of eggs in the autumn, on or near the species of plant she likes best. It is difficult to tell whether the seeming varieties which severally distinguish themselves by their peculiar liking for the various kinds of plants are really distinct species or varieties, or whether they acquire the difference exhibited by their colours simply by feeding upon the plant. Some think it is so; others say not. Undoubtedly there are several species and varieties, and it is natural to suppose that the black and blue kinds that feed upon the Cherry and the Plum may be different from that which feeds upon the Rose. The little frog-looking Cuckoo-spit that we often find embedded in froth in the spring on Roses, is an Aphis or a section of that genus.

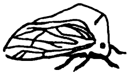

FIG. 9.
THE CUCKOO-SPIT.

These Aphides live upon the juices of the plants by piercing the veins or channels of the leaf and stems of the shoot. Being in such accumulated numbers and in consequence of the constant drain upon the juices of the plant, which prevents the sap from reaching the points of growth for its further development, they soon accomplish its death; or at least cripple the plant for the season, and seriously injure it for another.

It is a common thing to hear people say, 'The Green-fly has poisoned my Roses;' but this is not the fact. They have drawn the virtue from them, and the plants look as though they must die.

On the principle that a preventive is better than a cure, it is a good plan to keep some powdered stone-brimstone constantly in the greenhouse laid on a slate, and so placed that the full rays of the sun may fall upon it. The slate will get hot, and the sulphur will give off fumes enough to prevent the fly from occupying the house. Smoking may be also resorted to with beneficial effects. Dusting the plants with tobacco powder is likewise a good remedy.

Roses and plants out of doors infested with this pest may be syringed with any of the popular insecticides frequently, but the remedy must not be used too strong. The 'Gishurst Compound' used pretty strong on Roses, and on wall Cherry and Plum trees, in the autumn, will be no doubt destructive to the larva of the Aphides.

THE THRIP (*THYSANOPTERA*).

The preceding enemy of the garden is bad enough, but not half so bad as this. The Thrip is more insidious, and not so easily detected, except by a thoroughly practised eye. Generally the Aphis lies on the upper side of the leaf, or on some conspicuous part of the plant, but the Thrip conceals itself under the leaf, and lies so close that it cannot be seen very well by the naked eye; although the effects of its depredations are visible enough in the sickly state of the plant on which it does its work.

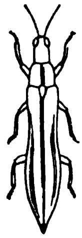

FIG. 10.—THE THRIP.
Twenty times its natural size.

Every plant infested with this pest betrays the fact by soon changing its healthy green for a pale and sickly green, and the leaves, instead of developing, soon contract and curl up. If they are on the flowers, where they are frequently to be found, the flowers act in the same way as the foliage does, *i.e.* they curl up. This insect lies on the main channels of the leaf, along the main nerves, and pierces the cuticle with its boring ovipositor, and then lies close and quite still, though it continues to draw the juices of the plant into itself. Instead, therefore, of these juices advancing to the extremities of the growing plant, or developing the flower buds, in consequence of the number of these insects being so great, a stop is very soon put to the growth of the most vigorous plant you can possess. I have noticed too that this pest always attacks the plant when it is most active. Thrips are very troublesome in Cucumber houses and frames, and Melon frames in the early spring, and among early forcing plants of a tender nature, when there is great difficulty in the way of exterminating them.

Staveley says that they have wings, which are, however, difficult to see, for the whole insect is not larger than a fly's eye; nor are they in a hurry to use them, for they will stick to their post like a limpet to a rock, and seem very reluctant to leave their work of destruction.

The Thrips are very fond both of warmth and moisture, hence they make their way into the Melon and Cucumber houses and frames during the spring, when the interiors are close and warm; and if they have once formed a colony in such a place, and are only left alone for a few days, it is probable that the remedy will be quite as bad as the disease; for it is more than likely that it will have to be so often repeated before they can be despatched, that the plants will either be destroyed, or so injured that they will be of no further use. The Thrips are fond of almost all kinds of fast-growing plants, such as Calceolarias, Cinerarias, Verbenas, and also Azaleas, when in heat; and they will get into the flower buds, and so infest them that the flowers cannot develop themselves.

In the case of the Cucumber, Melon, and tender plants in heat, a good plan is to keep some flour of brimstone spread over a slate, and placed so as to catch the full rays of the sun for some hours during the day, or to fill a six or eight-inch deep seed-pan with pieces of fresh stone lime (one lump will do if as large as half a brick); pour, say, half a pint of water on the lump, after it is placed in the house, and if the frame or house is more than twelve feet long, two of these pans of lime may be employed at the same time. As soon as the lime has taken up all the water, sprinkle one ounce of the fresh powdered brimstone on each pan, and close the house. It will be found that either of these is a safe and sure remedy. The first may be used constantly in the house or frame, for all kinds of plants. The latter plan may be adopted once or twice a week as a remedy, both as a preventive of mildew, and against the ingress of insect pests. Twice a week will not be too often, whether there is any insect pest or not.

The pots or pans of quicklime should be set on the floor of the house, and in the pathway. The fumes of the sulphur will be given off in such gentle and small degrees, that they will scarcely be noticed, and yet by these frequent and regular applications the desired effect will be obtained. If the frames containing plants infested with this pest are small, care must be taken as to the quantity of sulphur employed; more or less must be used according to the size of the frame or house; but all persons should adopt the first plan constantly, and there will not be much need of the second.

THE GARDEN MITE. RED SPIDER AND ITS VARIETIES.

This is another very insidious and troublesome plant pest, and one that causes a great deal of damage to plants. Gardeners generally call all this genus by the name of 'Red Spider;' but it so happens that it contains some varieties that are white or of a light colour, whilst others are of a light brown. As far as I can judge they are all alike as regards disposition, for I have found the white one quite as mischievous as the red one. All the various kinds of them are very active, and when once they are allowed to settle themselves in a house, they very soon form a colony not easily conquered. If you watch them, you will see them running here and there all over the plant in the greatest hurry, as if they were in the act of saving a house on fire, and, one might almost imagine, were endeavouring to save life, whereas they are combined one and all to destroy life if it is possible.

I have noticed how rapidly they will form a very thin gossamer network over the surface of a plant, which seems to impede its respiration, and somehow enables them the more readily to get at the various parts of it, so as to attack it where it is most suitable to their taste. Any plant, whatever it may be, that is attacked by this nimble little insect, soon gives evidence of it; but it must be remembered that the kind of element that is favourable to this enemy is not so to the Thrip; or rather, what the Thrip likes best, the Spider cannot endure. The Thrip likes damp and warmth; the Red Spider delights in a dry and warm atmosphere, but cannot endure the wet.

There is one species of this genus which appears in such vast numbers at the roots of Cucumbers in hot sunny weather, and which so infests the soil, as ultimately to destroy the plants. The best remedy for them is to sprinkle sulphur-vivum over the whole surface at intervals of a few days, and in the case of the common kind which attacks the branches and foliage of plants, apply the quicklime and sulphur plan the moment the enemy is discovered. Its presence is easily detected by the discoloration of the leaf of the plant so infested. The foliage soon—in the course of a few hours, or perhaps in a day or two—loses the beautiful lively green it formerly possessed, and you can soon see the difference, whilst by a little closer inspection of a leaf you will find it freckled all over, and probably you will also find some of the insects, which are not larger than a small pin's head. A dry and warm atmosphere promotes the increase of this pest, of which frequent applications of clean water with the syringe is a preventive. Every plant-house (especially forcing-houses) should be cleared out once a year—about July —and then be thoroughly fumed with sulphur, and the plants replaced.

THE SCALE (COCCUS IN VARIETY).

This genus wholly infests hard-wooded plants, such as the old wood of the Vine, the Camellia, Cactus, Oleander, and almost all such classes of plants. There seems to be various sorts of them, but the disposition of all is alike. If you look closely at the stems of the Vine, Camellia, Orange, Oleander, and similar plants, you will probably see numerous convex shell-like substances in form resembling the Ladybird Bug, but of a dull colour, like the grey or brown wood, where they are fixed as fast as if they were a part of the plant. It is very curious how they develop and advance themselves till they have quite overrun a whole plant, and finally they will destroy it. Staveley says, 'If you remove one of these large convex Scales, you will find underneath it a white mealy exudation, in which are embedded numerous active young Cocci with two long tails.' These quit their mother in due time, and still further develop and finally fix themselves, continuing to do the same as did the mother, and so in course of a little time they infest the whole plant.

These insects do their work of destruction by fixing themselves closely upon the bark of the plant, and sticking their beak into it, by which means they extract its juices, and this they do for months in succession, in fact, until they die. The immediate danger arising from this pest is not nearly so imminent as it is in the case of the Thrip and the Red Spider; but if the plants infested are not soon relieved of them, they will become even worse than such as are troubled with either of the foregoing, and be it remembered that this pest is more difficult to despatch than either the Thrip or Red Spider.

In every case this enemy must be detached by powerful insecticides, and in many instances by scrubbing and painting the parts affected with a thick and strong insecticide. No merely ordinary syringing will despatch it, and when it has fixed itself on a plant no time should be lost in applying some strong soft soap and sulphur made into a thin paint. Put this mixture into a vessel, and then pour as much boiling water upon it as will make it into a thin paint. Be careful to put enough hot water upon it, for if too little is added the solution will be too thick when it becomes cold, and stir the whole well as you proceed. Ten pounds of soap and three of sulphur will be the proper proportion, and it will keep for an indefinite time.

Hot water poured upon stone brimstone and allowed to stand for a few days makes a fine clean insecticide, and may be applied with the syringe to any class of plants without the least danger. Some recommend spirits of turpentine for this purpose, but I caution the reader against using this remedy. I have tried it to my great annoyance and disadvantage, through the spoiling of the plants. The soap and sulphur can be so diluted as to get it through a syringe, when it may be used with good effect upon fruit-trees on walls. I dare only recommend those insecticides that I know may be used with safety by amateurs. The thick paint-like soap and sulphur mixture must be applied when cold with a painter's shilling brush.

THE AMERICAN BLIGHT.

This is a very pernicious and fatal insect. It soon gives evidence of this by the effect it produces upon the Apple tree, causing blisters and a gangrene canker on the stems and branches of it, which will soon prove fatal if not speedily stopped; for the punctured places caused by this insect in the bark of the tree give rise to a decay which continues to progress slowly as a kind of canker, till ultimately the limb being no longer able to sustain itself, snaps off at the diseased point, which will be found dry and dead.

Generally this pest betrays its presence by the white cottony covering in which it envelopes itself; but I am of opinion that although in some cases and at some periods of the season no such appearance can be found, yet it is there, doing the same insidious work in the bark of the tree. I have particularly noticed that some kinds of the Apple are more liable to the attacks of this pest than others. A strong lime-wash put upon the trees liable to it is a good preventive. The quicklime should be used fresh, and put over the stems, &c., with a whitewash brush.

SNAILS AND SLUGS.

These are well-known enemies of the garden, and among flowers they are especially so. When an old snail once finds its way into a house of plants, it often causes a great deal of mischief before it can be arrested. The only safe and sure way of doing this is to take a lamp at nine or ten o'clock at night and go into the house, when most likely the enemy will be found advancing to, or not far from, the plant where it had been before. Do the same when snails or slugs trouble any of the flower beds, especially the Pansy, which they are very fond of when it is in flower.

MILDEW.

Mildew is such a common pest that I cannot omit alluding to it in a work like this. A great deal has been written on this disease in plants; but whatever is the cause the effects are the same, and the remedy is also the same; and as a preventive is better than a cure, the means that I recommend against the Thrip, Red Spider, &c., must be regularly resorted to. The fumes of sulphur are fatal to Mildew, and if used with care and in a mild and constant manner as they are given off in the case of exposing the brimstone to the full rays of the sun on a slate, or by small doses laid upon lime, they will prevent it from attacking the plants. When plants have got Mildew badly, dust them over with flour of sulphur, and after a day or two syringe them all over so as to wash it off.

CHAPTER II.

A CALENDAR OF MONTHLY WORK IN THE FLOWER GARDEN.

As a rule Calendars are as common as weeds, and frequently are not much better, for I find some of them contain instructions as misleading as it would be to give directions how to get Figs from Thistles. Not long since I read through one of these. The fact is, that many who write calendars are not practical hands, or, if they are, they are not precise enough.

JANUARY.

THE STOVE OR FORCING-HOUSE.—A heat of 65° Fahr. may be kept up during the day in this department, which may be allowed to sink ten degrees by night, but not lower. Water must be used sparingly, except in the case of the Hyacinth, Narcissus, Roses, and some fast-growing plants coming into flower, which may be liberally watered. Always give slightly tepid water if possible to plants in a place like this. If no evaporating troughs are affixed to the pipes, sprinkle them every morning at eleven o'clock with water to cause a nice vapour in the house. A few pots of the various plants intended for forcing may be introduced once a week. In case of severe frost, take the precaution to hang mats, or 'frigi-domo' up round the front of the house, outside, every evening. Little or no air should be admitted except on very mild days, and then only at the top for about an hour.

THE GREENHOUSE.—The Pelargoniums must be kept quiet, never giving them more water than is necessary to keep them from flagging. Give all the air possible on every fine day. The Cinerarias must be syringed with clean water every morning; the lights opened top and bottom, and a gentle heat kept up. If insects show themselves, smoke the plants in the evening when the foliage is quite dry. As they advance turn them round every few days, so that every side of the plant can get the full light. Give weak liquid manure to any plants that may be in flower once a week.

THE PITS AND FRAMES.—During the dull days in this month look well to the Auriculas, choice Polyanthus, and Carnations, and also to the Calceolarias and bedding plants, picking off all the dead and decaying leaves, and admitting all the air possible. On fine days pull the sashes quite off for a few hours, and close them at four o'clock. In the event of sharp frosts, first place dry hay on the lights of the frames containing bedding plants, and then a double mat.

THE FLOWER GARDEN.—Roll the lawn once a week, make new ones, and lay gravel on the walks. In mild weather plant Box edgings, Roses, and hardy shrubs. Prune and train climbing Roses, and all hardy climbers. Top-dress beds and borders, and also dig them.

FEBRUARY.

THE STOVE OR FORCING-HOUSE.—Very similar treatment of the plants to that of last month applies to this department, except that a little more activity in some of the inmates may manifest itself which may require attention. Some few seeds may be sown in pans, as Gloxinia, Begonia, Cockscomb, Petunia, Thunbergia, Acacia, Rhodanthe, and the Rose seed.

THE GREENHOUSE.—All the directions for last month for this department apply here, with the additional precaution to open the sashes at all opportunities, and to close them early in the afternoon, with a sharp lookout for insect pests, no time being lost in despatching them. Some early plants, such as the fancy Geraniums, may be shifted, and stopped to induce a bushy habit; and cuttings of Fuchsias may be taken and introduced into heat.

THE FLOWER GARDEN.—If the weather is open continue last month's operations. Towards the end of the month the Ranunculus, Anemone and Gladiolus may be planted, and a few hardy annuals sown; Roses and Box edgings may also be planted, borders and beds dug, and the hardy carpet-bedding plants planted. By all means sweep and heavily roll the lawns. Finish pruning all the hardy Roses.

MARCH.

THE STOVE.—All should be in activity here now. Many of those plants that show signs of active life must now be repotted; such as Begonias, Gloxinias, Gesneras, Euphorbias, Gardenias and the Achimenes; and all seeds of a tender class may be sown in seed-pans, and placed on the bed or slabs over the pipes. Plants in flower should be removed and placed in the greenhouse or conservatory, where a somewhat lower temperature is maintained, and any plants out of flower in the greenhouse which require stimulating to make wood may be brought here for a few weeks till the new growth is made, when they may be taken back again to the greenhouse, or set out of doors as the case requires.

THE GREENHOUSE.—This department, consisting of Cinerarias, Geraniums, &c., will be looking gay about this time. The Cinerarias will be in full flower, and must have a liberal watering given them daily, with an abundance of air, and some liquid manure once a week. The Aphides must also be kept in check. The Pelargoniums will be advancing, and must have their final shift. They may be stopped once more in the beginning of the month, and liberal waterings may now be given them, and all the air possible by opening the sashes all round, closing them early at night. The herbaceous Calceolarias must now be shifted from the small pots in which they have wintered, into six-inch pots—viz. thirty-twos of the London potteries. The propagation of all plants, and also the sowing of seeds must now go on briskly, and the shifting of all plants intended for fine specimens for the July and August shows must be done at once; such as Begonias, Zonal Geraniums, Fuchsias, Shrubby Calceolarias, Kalosanthes, Leschenaultias, Mesembryanthemums, Campanulas, etc.

THE FLOWER GARDEN.—March is a busy month in the garden, and will engage the mind and hands daily, if success is to be expected. Early in the month when the weather is dry, all the beds and borders should be well manured according to the requirements of the subjects occupying, or about to occupy, them, and allowed to lie on the surface as a top-dressing, or be just pricked a few inches into the surface with a fork.

Where new plantations of hardy carpet-bedding plants are to be made, and permanent plants are to be cultivated, manure and suitable soil for them should be now put upon the ground and well forked in, leaving the surface rough for a few weeks; do the same in the case of the summer bedding plants. Tea Roses may now be pruned, and also new ones planted; sow the seed for all hardy annuals and perennials. Plant the Ranunculus, Anemone, Gladiolus, Carnation, Pink and Pansy. Once a week sweep and roll the lawns. Plant Box edgings, and re-gravel the walks.

APRIL.

THE STOVE OR FORCING-HOUSE.—Last month's routine for this department will apply as a rule; though some precautions will be necessary as regards the temperature, which will get up on some sunny days and cause a scorching heat. Shading and ventilation must be attended to carefully, and at the same time the admission of cold draughts must be guarded against.

THE GREENHOUSE.—Last month's directions are good now with a few exceptions. Some of the inmates may be turned out to make room for others. These may consist of Cinerarias which have done flowering, and half-hardy bedding stuff, which should be set under a wall, in cold frames, or under trees, to shelter them. More room will be required for the Geraniums and Calceolarias.

THE FLOWER GARDEN.—Last month's operations may be continued in this department.

THE FRAMES AND PITS.—The Auriculas will now be in bloom, or coming into bloom. Give them all the air possible and shade them. These should be in a frame facing the north or west. Give them weak liquid manure and thin out the pips. Remove Carnations and Pansies from the frames and plant them out, or shift them into large pots.

Sow the Carnation, Picotee, Pink, Pansy and Hollyhock seed in pans and set them in frames. Prick out any seedlings of choice annuals and perennials into seed-pans, or into fine soil in the frames, and also into the fine soil of the out-of-door nursery beds; water and shade them.

MAY.

THE STOVE AND GREENHOUSE.—Give both air and moisture, and all the room possible to the plants in each of these departments. Air may be admitted both night and day to the greenhouse from this month till October. Look out for the Aphides and apply the needful remedies; frequent syringings will be advantageous in both houses, which should be done about five o'clock in the afternoon.

THE FLOWER GARDEN.—Every morning roll the grass, not depending upon the roller of the mowing-machine for this purpose, for none of the small machines have them heavy enough to do a lawn much good. They may put a stone as large as a pea out of the way of the blade to prevent its coming in contact with it, but no unevenness of turf, &c., can be made level, or even sufficient to constitute a really first-class lawn. Roll it after every mowing with a heavy iron roller, and again the day before the next mowing. This is the way to get a good lawn.

The time has now come when it should be determined what each bed is to be filled with, and towards the end of the month some things may be bedded out, such as Scarlet Geraniums, Verbenas, Calceolarias, Mesembryanthemums, Stocks and Asters; leaving the more tender sorts till the beginning of June. It will be found on trial that some classes of things require a somewhat different kind of compost or soil to grow them in to what others do. The Mesembryanthemum, for instance, requires a poor sandy and gravelly soil if it is to do well; while the Verbena, Calceolaria, Aster, &c., require a rich and good one. I have found that the Scarlet Geranium will flower more freely in a moderately good soil than in a very rich one; but the Tricolor and Silver kinds require a strong and rich soil to induce them to grow freely.

The art of all good bedding consists in having strong autumn-struck plants, and matching the soil to the real nature of them. The Coleus likes a good proportion of decayed leaf-mould; I do not mean such as may be found under trees or in hedges, &c., but leaves that have been laid up in a heap and have fermented and decayed till they have become mould, which they will do in the course of a year. This, with some good sand, will suit the Coleus, and also many other things. Look well after the Aphides on the Roses.

JUNE.

THE STOVE AND GREENHOUSE.—The subjects in each of these departments must be treated according to their requirements. In each case will be found plants in full flower and healthy vigour. Careful attention in watering, syringing, shading, giving air, stopping, and training—these are the chief business. Potting of seedlings, making cuttings, &c., may also be required. Turn out all the plants out of flower, and all the Camellias, and set them out of doors under a north wall. Encourage the Balsams, Cockscombs, Amaranthus, &c.

THE FLOWER GARDEN.—Last month's operations may be continued, and the work of bedding out; thinning out the plants sown in beds, and planting out generally, must be proceeded with as fast as possible, and everything should be neatness and good order, with a finished prospect for a full display by the middle of the month.

JULY.

This is comparatively a quiet time in the houses, except that some early cuttings may be taken off Pelargoniums, Tricolors, and Zonals. The early Primulas should now be potted into their flowering pots, and be kept as cool as possible, admitting an abundance of air both day and night. Early Pelargoniums which have done flowering should be cut down and the cuttings struck. Encourage the Balsams by giving them an abundance of air, water and light.

THE FLOWER GARDEN.—Stop and peg down Chrysanthemums, and some of the early bedding plants, and stir the surface of the beds. If the weather is dry, watering must be resorted to. To do watering well, let me beg of the reader not to use any of those new-fashioned and whimsical waterpots advertised as wonderful things, and possessing superior advantages over the old kind. Some of these have roses which direct the water with such force upon the surface as to convert it into a muddy pool; another kind has a perforated pipe for the conveyance of the water over a large space at once. I say, do not use them, for there is nothing like the old-fashioned waterpot with the rose having medium-sized holes in it, and set so as to allow the water to fall on to the flower beds in one moderate and equal shower; falling with no more force than its own weight, and soaking the surface thoroughly as the pot is gently moved by a continued and gradual motion. Never go over the same place twice at the same watering, for when waterpots are so long dribbling out their contents the surface of the soil becomes like a muddy puddle, which when dried by the sun the next day gets baked, thus excluding the air, and under such conditions no plants can flourish.

No practical gardener would devise such waterpots, and I am particular on this subject because I know only too well the mischief they do. To some persons the watering of beds of flowers may appear of small consequence how or by whom it may be done; but I well know that there is an art in it, and only one way to do it properly.

AUGUST.

THE STOVE AND GREENHOUSE.—This month may in a measure be regarded as the counterpart of the following spring in every department.

The propagation of all plants requiring fresh stocks, the increase of stock generally, and the preparation of all kinds of bedding plants, may be done during the month, together with the maturity of all the new growth of plants—these are the chief objects to keep in view. The ripening of all the new growth of hothouse climbers and plants is of great importance during the early autumn months. A cooler atmosphere, air and light, with not too much water, are the necessary things to attain to this end.

THE FLOWER GARDEN.—The propagation of all classes of bedding plants must be done during this month, and the seeds of some may be sown. About the middle of the month sow Mignonette in pots; Schizanthus retusus, the Pansy, Viola, Lobelia, Hollyhock, Carnation, &c., in pans; and towards the end sow Nemophila, Virginian Stock, Candytuft, and any hardy annuals to flower early in the following spring.

Make Pansy cuttings, and plant out the Pinks and Carnations which were struck last month; bud the Roses, and prune those Chinas which are to flower late in the autumn; shift pot Roses, and plunge them for winter flowers in the house. Continue to peg down Chrysanthemums in beds, and take some short cuttings, and strike them to make dwarf plants in pots. Plant out Brompton Stocks and Wallflowers early in the month; give liquid manure to the Chrysanthemums in pots, Balsams and Cockscombs. Plant out Forget-me-nots, and towards the end of the month plant Crocuses, Snowdrops and early Squills.

SEPTEMBER.

THE STOVE AND GREENHOUSE.—The first of these structures, containing plants, must now have attention, as regards sufficient heat to keep up a healthy circulation of air and to avoid damp. Every subject of this department must be very carefully watered, especially the Coleus and similar tender plants. The greenhouse should be got ready for the winter plants by cleaning and whitewashing the walls, cleaning the glass and stages, flues, etc. Towards the end of the month some of the inmates may be brought in; keep the sashes open night and day.

THE FLOWER GARDEN.—Towards the end of the month take up some of the old favourite plants, pot them, and cut them back. At intervals throughout the month make cuttings of shrubby Calceolarias, using the young short side shoots for this purpose. Plant bulbs of all the early sorts. No time should be lost in finishing up the propagation of all bedding plants for a sufficient working stock for the spring. All bedding Geraniums should have been finished last month in a sufficient quantity for all the beds to be filled with them, as spring-struck plants of that kind are half the summer before they can make a show equal to the autumn-struck ones. The same may be said of the Mesembryanthemum, Gazanias, Lobelia, Œnothera, etc.

OCTOBER.

THE STOVE AND GREENHOUSE.—All stove plants and plants intended for forcing must be well looked to during this month and a nice heat kept up. All the greenhouse plants must now be placed in their quarters; the Cinerarias well examined and set in their places; the Geraniums the same; and the pots of Mignonette should be placed near the glass. The Camellias must be set away from the glass, as far back as possible from the light. The Primulas should be placed in front, and the Pelargoniums also, unless a house can be devoted entirely to them. The herbaceous Calceolarias should be placed in deep cold frames or pits. The greenhouse Roses may be brought in and pruned, and Carnations and Pinks placed in either house.

THE FLOWER GARDEN.—The frosts will have hindered any further display in this department by this time. The Chrysanthemums will be good yet; but Dahlias and nearly all other bedding plants will be nearly or perhaps quite over. The chief business will now be to clear away all these, and to take up from the beds such plants as are worth preserving for stock, and for the next season. Old Scarlet Geraniums are not worth saving, except perhaps a few particular sorts that are scarce, and therefore valuable. Some nice dwarf and compact Calceolarias may be worth saving for large specimens and for vases next year, but as a rule old plants are not worth the trouble or room they require.

Some late cuttings of these may be put in and placed in a very mild heat, or they will strike under a hand-light; or if inserted in deep seed-pans or pots of sandy fine peat and maiden loam, and placed in a small brick nursery pit, they will strike root well. Late short cuttings of Verbenas may be taken off, if they are not injured by the frost, and dibbed into shallow pans of fine sharp sand, and placed in a frame in the full sunshine, being kept well watered.

The beds may now all be cleared, and bulbs planted. Many of the hardy classes of carpet-bedding plants will require some little trimming and cleaning out, so that air can get at them. The lawn should be rolled with a heavy roller every week, Box edgings may be planted, and new gardens made. Take up Stocks and pot for house work, and also take up Violets that have been prepared for the purpose of forcing, with a good ball of earth to them, and pot them. Prepared Pink and Carnation roots may be taken up with a good ball of earth, potted, well watered, and then placed in a frame to prepare them for forcing. 'The preparation' of these for forcing consists in cutting over the plants during the summer to make them compact, with some frequent liftings to induce a compact fibrous root, and finally a thorough soaking with water before lifting the roots for potting, so that no check can arise to them. One-year-old piping plants put out in May must be used.

Pot the Cyclamen and Lily-of-the-valley for forcing, if the latter is quite matured in the bud. This can be known by the leaf turning quite yellow, or having died quite down. Choose the buds that are the most rounded at the point; these will give flowers. Pot Roses and put in cuttings. Some calendars recommend a class of work to be done at this time which is quite misleading; for instance, some advise the clipping of Box edgings in September, and other work to be done quite out of season. I again warn my readers against such calendars.

NOVEMBER.

THE STOVE AND GREENHOUSE.—Everything will by this time be placed in its respective place in each department, and all active work finished. Care will be required in watering the plants at first, and a good sweet heat must be kept up; and in the latter place syringing must be done on the Cinerarias, a gentle heat being kept up sufficient to ward off the night frosts and to drive away the damp. Air must be admitted on every fine day from nine A.M. till three P.M. Some Roses, Carnations, Pinks, and early potted bulbs may be introduced into the forcing house.

THE FLOWER GARDEN.—The chief business of this month in the flower department is the rolling of the lawn, making new ones, and all the alterations necessary to be done. Early in the month plant Roses, and all kinds of deciduous shrubs, and Conifers. Prune shrubs, hardy Roses, and bulbs of all sorts, especially Tulips, Hyacinths, Narcissus, Snowdrops, Iris and some of the early Gladiolus. Lilies and Lily-of-the-valley, Crown Imperials and Squills may be planted without delay.

In the event of frost, cover them with six inches of dry ferns or straw, or three inches of cocoanut fibre, sawdust, or old tan. Do not act as some recommend who write calendars on this subject, which seem to give such a wide range for work, that those who are ignorant might suppose that gardening was like shop-keeping—a matter of indifference whether some particular work was done in January or June. This is not the way to make good gardeners at any rate. 'There is a time for everything.' The Auricula and choice Polyanthus in pots and in frames must have a free current of air daily, and water sparingly. Calceolarias in cold frames or pits must have all the air it is possible to give them, and water also sparingly. In fact, if these are in their proper quarters—a deep cold frame, or a pit placed on some coal ashes—little or no water will be required for them through the whole of the winter, nor will insects trouble them much.

All seed sowing may be considered futile as a rule at this time of the year. Nor do I recommend the planting of hardy perennials at this time, as a rule, except some strong old plants of a very hardy nature. If young ones of any kind are planted from November till March, or before the end of February, and the weather should be wet and cold with frosts, they will die, and consequently be all lost; so I beg of the reader to be warned against being led into making mistakes.

DECEMBER.

The Stove and Greenhouse.—Some bulbous plants, Stocks and Roses will be now coming into flower. These should have water in moderation, and some liquid manure to encourage the development of fine flowers, but this applies only to such as are coming into flower. All plants not so far advanced must be very sparingly watered, and some of them must be kept quite dry; such as Gesnerias, dormant Gloxinias, Achimenes, &c. Active Ferns (and Ferns are always active in heat) must have water given them.

In the greenhouse a few things will be advancing towards flowering, such as Camellias, early Cinerarias, Mignonette and Primulas; these must have water moderately, all the air that can be given them, and a fire should be kept on at all times to promote a healthy circulation. Care should also be taken to look well after Green-fly on the Cinerarias. Keep the Geraniums at a low temperature, give them all the air possible, and but little water.

The Flower Garden.—If the weather is open and mild continue last month's routine in this department;

but if frost occurs, discontinue all operations except the preparation of new work, such as making gravel walks, preparing the ground for new lawns, &c. The rolling of new and uneven lawns should be continued at every opportunity when the weather is mild and the soil wet. The winter season is the time to beat and heavily roll lawns, so as to get a good surface. Turf-lay them if it is at all possible to get the turf.

CHAPTER III.

TOOLS USEFUL IN A GARDEN.

THE DEWPOT.

THIS useful implement is one of the most necessary things in a garden where fine seeds are sown in pans, or indeed anywhere, and I have found it so. It is called the 'Irrigator,' but I call it the 'Dewpot,' from the fact that the jet is, or should be, so fine that it gives out the water—which should always be quite clean—as fine and as light as the softest rain or the falling dew, so that the finest seeds may be watered with this pot without any fear of disturbing them. It is also a most valuable implement for watering fine young Ferns. On the flat side of the jet, at C, is a screw valve to unscrew occasionally, in order to clean out the jet. It is made of good block tin, and painted inside and out; or it may be had in copper or zinc from the patentee.

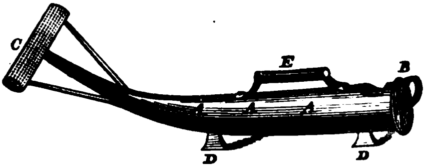

FIG. 11.—THE DEWPOT.

References.—A A A, the body to hold the water; B, the opening to receive the water; C, half-circle jet, thickly perforated with the finest pin-holes; D D, feet; E, handle.

The Daisy Grub (fig. 12) will be found a capital tool for getting Ferns out of hedges, &c. The Hand-fork (fig. 13) is a good tool for lifting plants with. The

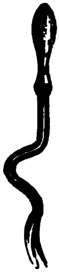

FIG. 12.

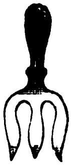

FIG. 13.

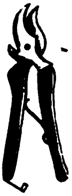

FIG. 14.

Hand-pruner (fig. 14) is a most convenient tool for ladies and gentlemen to prune their shrubs with, which should always be done close down to the leaflet, leaving an entire leaf untouched for a terminal, especially in

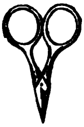

FIG. 15.

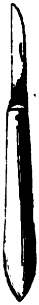

FIG. 16.

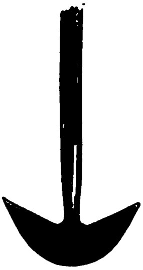

FIG. 17.

the case of evergreens. The Propagating Scissors (fig. 15) will be found useful for ladies and gentlemen in trimming cuttings—not the base of them, which should be cut over with a keen-edged small knife,—but for denuding the cutting of its leaves. The Budding Knife (fig. 16) is an illustration of what I consider to be a good kind. The Edging Iron (fig. 17).

Everyone who has anything at all to do with a flower garden should possess a triple magnifying microscope with which to investigate insects.

The Averuncator.—This (fig. 18) is one of the most convenient tree-pruners it is possible for ladies and gentlemen to have who cannot climb ladders or steps. It has a long handle and, as the illustration shows, works with a small strong cord which runs over pulleys. The cutting part *a* is made of the best steel, is very strong, and large enough to grip a limb as large as a good-sized walking stick, which it will sever with the knife and lever B, by pulling the cord *c*. When this is not on the strain, it lets go the lever B, which then is pushed at right angles by the spring *b*.

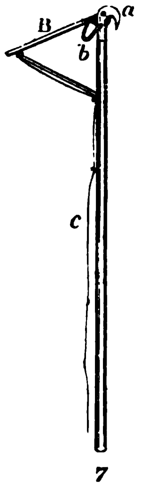

Fig. 18.

The utility of this tool is at once evident in the convenience it affords to the person engaged in pruning a high tree of any sort, by being able to do so while standing on the ground. It is very useful in another respect, for anyone can see what branch requires to be shortened, and can then quite conveniently reach it and cut it out. It can be used also for Climbing Roses, Climbers against high walls, Vines, &c.

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